LAWRENCE LIVERMORE NATIONAL LABORATORY
7000 EAST AVENUE, L-198, LIVERMORE, CALIFORNIA, 94550

SUBJECT: Report of Foreign Travel to Beijing, China
DATE: January 27, 2020
TO: Dr. Angela Chambers, USDOE Nuclear Criticality Safety Program Manager
National Nuclear Security Administration, NA-51
FROM: Jesse Norris, Nuclear Criticality Safety Division, Lawrence Livermore National Laboratory

## MEETING TITLE
2019 International Conference on Nuclear Data for Science and Technology (ND2019)

## MEETING LOCATION
China National Convention Center, Beijing, China

## MEETING DATES
May 20-24, 2019

## ATTENDEES ON BEHALF OF NCSP
Catherine Percher and Jesse Norris

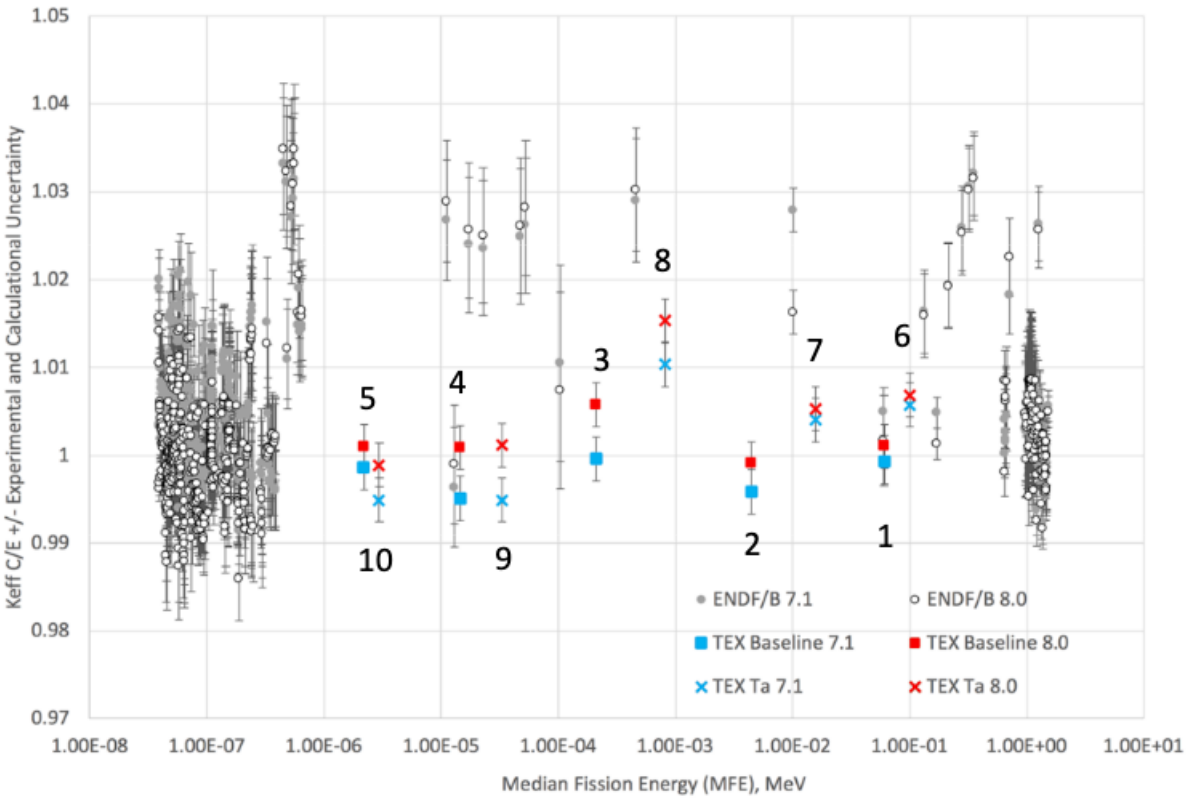
## MEETING PURPOSE
The International Conference on Nuclear Data for Science and Technology is the premier conference concerning nuclear data and its applications. ND2019 is organized every three years by the Nuclear Energy Agency of the Organization for Economic Cooperation and Development (OECD-NEA).

The conference is attended by the experimentalists who perform the cross section measurements, the theorists who develop the fundamental models of nuclear reactions, the evaluators who combine the fundamental models and the measurement results into a standard nuclear data format, the developers who write nuclear data processing codes to make the data usable by radiation transport codes (such as COG, MCNP, and SCALE), and the end-users of the nuclear data (e.g. nuclear criticality safety engineers). This conference brings together the experts in all areas of nuclear data to assess the current needs and determine the future direction of the field.

The final program for the conference is attached.

## MEETING BENEFIT TO NCSP
There were several tracks related to the work that the NCSP supports, including: evaluation (ND), thermal scattering data (ND), integral experiments (IE), nuclear data processing (AM), and nuclear data validation (AM). The most impactful presentations from each of the sessions relevant to NCSP are included in the following sections. The conference also included a meeting

of WPEC Subgroup-45, related to validation suites for radiation transport codes. A summary of the meeting is included in the following section.
Catherine Percher presented her DOE Nuclear Criticality Safety Program funded research in a paper entitled "Nuclear Data Implications of TEX, Ten New Critical Experiment with Plutonium and Tantalum." The results were so impactful that the closing plenary speaker and chair, Dave Brown of Brookhaven National Laboratory, presented the C/E results from the TEX experiment in his closing presentation for the entire international nuclear data community. Catherine's TEX results shown by Dave Brown in his closing presentation are included in the figure below.




## WPEC-Subgroup 45 – Validation of Nuclear Data Libraries (VaNDaL)[1]

The purpose of the VaNDaL WPEC Subgroup is to create a standardized quality assurance process for experiment suites which are used to validate radiation transport codes (e.g. COG, MCNP, and SCALE). Currently, these validation suites are largely institutional with only ad hoc methods of inter-comparison, which limits the sharing of knowledge or mistakes that have been fixed. A robust method of inter-comparison would allow better code validation for nuclear criticality safety and determination of the upper subcritical limit.

This meeting focused on the best methods for sharing the inputs (for quality assurance) and output results (for inter-comparison). Catherine Percher presented an inter-comparison study of benchmark results using data from LLNL, ORNL, LANL, and IRSN. The inter-comparison

[1] Fleming, Michael, WPEC Subgroup 45 (VaNDaL) Meeting, "Summary Record" (WPEC/45/19/05/2). China National Convention Center, Beijing, China. May 22, 2019.

showed differences that were attributable to input errors. Wim Haeck of Los Alamos National Laboratory addressed the difficulty of sharing input and output results and proposed a common JSON format include the standard results relevant for most benchmarks. Additionally, participants gave updates on their status of sharing inputs for benchmarks, including LLNL intending to provide around 2000 COG benchmarks.

## Integral Experiments (IE-Related Track)

"Nuclear Data Implications of TEX, Ten New Critical Experiments with Plutonium and Tantalum" – Catherine Percher (Lawrence Livermore National Laboratory)

"Current Overview of ICSBEP and IRPhEP Benchmark Evaluation Practices" – John Bess (Idaho National Laboratory)

"Contributions to Integral Nuclear Data in ICSBEP and IRPhEP Since ND2016" – John Bess (Idaho National Laboratory)

- Provided a detailed overview of the 2018 edition of the International Criticality Safety Benchmark Evaluation Project Handbook. The handbook included 574 evaluations with benchmark specifications for 4,916 critical, near-critical, and sub-critical configurations.

"National Criticality Experiments Research Center (NCERC) – Capabilities and Recent Measurements" – Nicholas Thompson (Los Alamos National Laboratory)

"Use of Shielding Integral Benchmark Archive and Database for Nuclear Data Validation" – Ivan Kodeli (Jozef Stefan Institute, Ljubljana, Slovenia)

- Advocates for the use of shielding benchmarks for the validation and improvement of nuclear data, which is the mission of a new WPEC Subgroup (WPEC SG47) entitled "Use of Shielding Integral Benchmark Archive and Database for Nuclear Data Validations." Emphasized that critical experiments introduce biases and compensation effects. This highlights an internationally accepted need for a variety of integral experiments, in addition to the critical experiments performed at NCERC, which could be adopted by the NCSP's integral experiment or nuclear data program elements.

## Nuclear Data Processing and Validation (AM-Related Track)

"Status of IRSN Nuclear Data Processing System GAIA-2" – Clément Jeannesson (Institut de Radioprotection et de Sûreté Nucléaire (IRSN), France)

"Current Status of the GALILEE-1 Processing Code" – Cedric Jouanne (CEA, Saclay, France)

"Implementation of URR and NTSL in GNDS Format Using FUDGE" – Bret Beck (Lawrence Livermore National Laboratory)

- Updated on the status of FUDGE, the LLNL nuclear data processing code (like NJOY). FUDGE was created to process the new Generalized Nuclear Data Format (GNDS), developed by WPEC Subgroup-38, to replace the current nuclear data format, ENDF6.

This represents a major change to the nuclear data format that nuclear data processing codes supported by the NCSP (such as NJOY) must be able to handle in the future.

"Benchmarking ENDF/B-VIII.0 Using the LANL Expanded Criticality Validation Suite for MCNP" – Ramon Arcilla (Brookhaven National Laboratory)

"Advance: the ENDF Quality Assurance System" – David Brown (Brookhaven National Laboratory)

## Evaluation and Thermal Scattering Data (ND-Related Track)

"Experimental Validation of the Temperature Behavior of the ENDF/B-VIII.0 Thermal Scattering Kernel for Light Water" – Jose Ignacio Margquez Damian (Centro Atomico Bariloche – Comision Nacional de Energia Atomica)

"Thermal Scattering for Neutron Moderator Materials: Integrating Neutron Scattering Experiments with Density Functional Theory Simulations" – Li Liu, Yaron Danon, Kemal Ramic, and Carl Wendorff (Rensselaer Polytechnic Institute)

- New methodology for evaluating thermal scattering laws from experimental data based on measurements from the Spallation Neutron Source of Oak Ridge National Laboratory. The measurements were performed for polyethylene and the methodology extended to water and Lucite. Compared to ENDF/B-VII.1, the new thermal scattering laws showed improved calculation accuracy for the HEU-MET-THERM benchmarks.

"Processing and Application of Nuclear Data for Low Temperature Criticality Assessment" – Tim War (Wood, United Kingdom)

"New Paradigm for Nuclear Data Evaluation" – Mike Herman (Los Alamos National Laboratory)

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## Mon May 20 14:00-18:25 Plenary-Hall-B

**Topic Track: Plenary A**
**Session Title: Plenary A1**
Chair: Tokio Fukahori

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|---|---|---|
| **14:00** | **L001** | **The Joint Evaluated Fission and Fusion (JEFF) Nuclear Data Library** / Arjan Plompen (European Commission - Joint Research Centre, Belgium) |
| **14:35** | **L002** | **Recent Results from the Neutron Induced Fission Fragment Tracking Experiment Using the FissionTPC** / Nathaniel Bowden (Lawrence Livermore National Laboratory, USA) |
| **15:10** | **L003** | **Correlated Transition of TKE and Mass Distribution in Nuclear Fission** / Satoshi Chiba (Tokyo Ins. of Technology, Japan) |
| **15:45** | | **Break** |

**Topic Track: Plenary A**
**Session Title: Plenary A2**
Chair: Arjan Koning

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|---|---|---|
| **16:05** | **L004** | **The CONRAD Code, A Tool for Nuclear Data Analysis and Nuclear Reaction Modelling** / Cyrille De Saint Jean (CEA, France) |
| **16:40** | **L005** | **Fast Neutron Capture Reaction Data Measurement of Minor Actinides for Development of Nuclear Transmutation Systems** / Tatsuya Katabuchi (Tokyo Ins. of Technology, Japan) |
| **17:15** | **L006** | **Nuclear and covariance data adjustment for nuclear data files improvement: new methods and approaches** / Massimo Salvatores (Scientific Advisor, Reactor and Fuel Cycle, France) |
| **17:50** | **L007** | **CENDL3.2: The New General Purpose Nuclear Database** / Zhigang Ge (China Nuclear Data Center, Beijing) |

## Tue May 21 | 8:30-12:30 | Room 202

**Topic Track: Nuclear Theory, Model and Codes**
**Session Title: Nuclear reaction theory models and codes 1**
Chair: Gilles Noguere

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|---|---|---|
| **08:30** | **I008** | **Novel Challenges for FLUKA: Status of the Code and A Review of Recent Developments** / Alfredo Ferrari (CERN, Switzerland) |
| **09:00** | **R009** | **Total Cross Section Model with Uncertainty Evaluated by KALMAN** / Shintaro Hashimoto (Japan Atomic Energy Agency) |
| **09:20** | **R010** | **Synergy of Nuclear Data and Nuclear Theory Online** / Andrey Denikin (FLNR, Joint Ins. for Nuclear Research, Dubna, Russian Federation) |
| **09:40** | **R011** | **Recent Progress of A Code System Deuracs Toward Deuteron Nuclear Data Evaluation** / Shinsuke Nakayama (Japan Atomic Energy Agency) |
| **10:00** | **R012** | **Systematic Formalism for the (n,p) Reaction Cross Section at 2.5, 14, 20 MeV with Explicit Description of MSC and MSD Pre-equilibrium Multiple Particle Emission** / Olumide Oluwasanmi Ige (Physics Department Nigerian Defence Academy Kaduna) |
| **10:20** | | **Break** |

**Topic Track: Nuclear Theory, Model and Codes**
**Session Title: Nuclear reaction theory models and codes 2**
Chair: Alfredo Ferrari

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|---|---|---|
| **10:40** | **R013** | **Systematic Uncertainties of E1 Photon Strength Functions Extracted from Photodata** / Oleksandr Gorbachenko (Taras Shevchenko National Uni. of Kyiv, Kyiv, Ukraine) / Speaker: Stephane Goriely |
| **11:00** | **R014** | **Comparative Analysis of Neutron Activation Cross Sections of Aluminum Used As Cladding in Miniature Neutron Source Reactors** / Olumide Oluwasanmi Ige (Physics Department Nigerian Defence Academy Kaduna ) |
| **11:20** | **R015** | **Nucleon-transfer Reactions for Low-energy Deuterons in FLUKA** / Salvatpujol Francesc (on Behalf Of The Fluka Collaboration) (CERN, Switzerland) |
| **11:40** | **R016** | **Consistent Assessment of Deuteron Interactions at Low and Medium Energies** / Marilena Avrigeanu (Horia Hulubei National Ins. for Physics and Nuclear Engineering (IFIN-HH), Romania) |
| **12:00** | **R017** | **Alpha-nucleus Optical Potential Based on the Isospin-dependent DBHF** / Zhi Zhang (CIAE, China) |
| **12:20** | **S018** | **The Cross Sections and Energy Spectra of the Particle Emission in $\alpha$ Induced Reaction on $^{54,56,57,58,\mathrm{nat}}$Fe and $^{63,65,\mathrm{nat}}$Cu** / Xinwu Su (Shanxi Datong Uni., Datong , China) / Speaker: Yongli Xu |
| **12:25** | **S019** | **Employing Talys to Deduce Initial JRMS in Fission Fragments** / Ali Al-adili (Uppsala Uni., Sweden) |

## Tue May 21 | 14:00-17:50 | Room 202

**Topic Track: Nuclear Theory, Model and Codes**
**Session Title: Nuclear reaction theory models and codes 3**
Chair: Helmut Leeb

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|---|---|---|
| **14:00** | **I020** | **Multiband Coupling and Nuclear Softness in Optical Model Calculations for Even-even and Odd-A Actinides** / Dmitry Martyanov (Joint Ins. for Power and Nuclear Research - Sosny, Belarus) |
| **14:30** | **R021** | **Global Phenomenological Optical Model Potentials for Some Weakly Bounded Light Projectiles** / Yongli Xu (College of Physics and Electronic Science, Shanxi Datong Uni., Datong , China) |
| **14:50** | **R022** | **The Dark Side of Alpha-particle Optical Potential: Emission from Excited Nuclei** / Vlad Gabriel Avrigeanu (Horia Hulubei National Ins. for Physics and Nuclear Engineering (IFIN-HH), Romania) |
| **15:10** | **R023** | **Unified Description of Bound States and Nucleon Scattering for Double Magic Nuclei by A Lane-consistent Dispersive Optical Model Potential** / Weili Sun (Ins. of Applied Physics and Computational Mathematics, China) |
| **15:30** | **R024** | **Comparison of Practical Expressions for E1 Photon Strength Functions** / Oleksandr Gorbachenko (Taras Shevchenko National Uni. of Kyiv, Kyiv, Ukraine) / Speaker: Ihor kadenko |
| **15:50** | | **Break** |

**Topic Track: Nuclear Theory, Model and Codes**
**Session Title: Nuclear reaction theory models and codes 4**
Chair: Dmitry Martyanov

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|---|---|---|
| **16:10** | **I025** | **Developments Regarding Three-body Reaction Channels Within the R-matrix Formalism** / Helmut Leeb (TU Wien, Austria) |
| **16:40** | **R026** | **Monte Carlo Simulation of Gamma and Fission Transfer Reactions Using Extended R-matrix Theory** / Olivier Bouland (CEA/DER/SPRC/LEPh, CE Cadarache, Saint-Paul-lez-Durance, France) |
| **17:00** | **R027** | **Modernization of Sammy: An R-matrix Bayesian Nuclear Data Evaluation Code** / Goran Arbanas (ORNL, USA) |
| **17:20** | **R028** | **R-matrix Analyses of Light Element Reactions** / Paris Mark (T-2, Theoretical Division, LANL, USA) |
| **17:40** | **S029** | **Theoretical Calculation of Micro Data for the Nuclear Reaction of p+$^{27}$Al up to 200 MeV** / Zhengjun Zhang (North West Uni. , Xi'an , China) |
| **17:45** | **S030** | **An Evaluation of the Alpha-cluster Formation Factor in (n,$\alpha$) Reactions** / Odsuren Myagmarjav (Nuclear Research Center, National Uni. of Mongolia, Mongolia) |

## Tue May 21 | 8:30-12:20 | Room 203

**Topic Track: Evaluation**
**Session Title: Evaluation methodology 1**
Chair: Nobuyuki Iwamoto

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|---|---|---|
| **08:30** | **I031** | **New Paradigm for Nuclear Data Evaluation** / Michal Herman (LANL, USA) |
| **09:00** | **R032** | **Prompt Fission Neutron Spectra of $^{238}$U(n,F) and $^{232}$Th(n,F)** / Vladimir M. Maslov (Joint Ins. of Nuclear and Energy Research, 22 0109, Minsk-Sosny, Belarus) |
| **09:20** | **R033** | **Interfacing TALYS with A Bayesian Treatment of Inconsistent Data and Model Defects** / Georg Schnabel (Uppsala Uni., Sweden) |
| **09:40** | **R034** | **The RAC-CERNGEPLIS Evaluation Method for Global Fitting** / Zhenpeng Chen (Tsinghua Uni., China) |
| **10:00** | **R035** | **Theoretical Calculations and Covariance Analysis for n+$^{40}$Ca Reactions** / Yue Zhang (China Inst. of Atomic Energy) |
| **10:20** | | **Break** |

**Topic Track: Evaluation**
**Session Title: Evaluation methodology 2**
Chair: Michal Herman

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|---|---|---|
| **10:40** | **R036** | **New Reaction Evaluations for Chromium Isotopes** / Gustavo Nobre (Brookhaven National Laboratory, USA) |
| **11:00** | **R037** | **New Evaluations of W-182,184,186 General Purpose Neutron Cross-section Data up to 200 MeV Neutron Energy** / Alexander Konobeyev (Karlsruhe Ins. of Technology, Germany) |
| **11:20** | **R038** | **$^{233}$U Cross Section Comparison Evaluation Between SAMMY and FITWR Code Fitting Procedures** / Mohammad Alrwashdeh (Khalifah university, Jordan) |
| **11:40** | **R039** | **Evaluation of Neutron Induced Reactions on Fe-56 with CONRAD** / Maria Diakaki (CEA, DEN Cadarache, F-13 108 Saint Paul Les Durance, France) |
| **12:00** | **S040** | **Calculation of Stricken to Mortality and Incidence Cancers Due to Beyond Design Basis Accidents (BDBA) in Populations Near Nuclear Facilities** / Hadi Shamoradifar (Payam e noor university, Iran) |
| **12:05** | **S041** | **Some Ideas Need Discussion in Global Fitting for Nuclear Data Evaluation** / Zhenpeng Chen (Tsinghua university, China) |
| **12:10** | **S042** | **The Evaluations of Gamma-induced V-51** / Lin Li (China Inst. of Atomic Energy) |
| **12:15** | **S043** | **Development the Nuclear Decay Data Sublibrary for Fission Product** / Xiaolong Huang (China Nuclear Data Center) |

## Tue May 21 | 14:00-17:50 | Room 203

**Topic Track: Evaluation**
**Session Title: Evaluation methodology 3**
Chair: Cyrille De Saint Jean

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|---|---|---|
| **14:00** | **I044** | **Resonance Evaluations of Gadolinium Isotopes** / Luiz Leal (Institut de Radioprotection et de Surete Nucleaire, France) |
| **14:30** | **R045** | **Measurement and Covariance Analysis of Reaction Cross-section by Using Unscented Transformation Method** / Vidya Devi (IET Bhaddal, Rupnagar, Punjab-India) |
| **14:50** | **R046** | **Unified Bayesian Evaluation of Oxygen Based on the Hybrid R-matrix Method** / Helmut Leeb (TU Wien, Austria) |
| **15:10** | **R047** | **New Perspectives in Neutron Reaction Cross-section Evaluation Using Consistent Multichannel Modeling Methodology: Application to 16-O** / Aloys Nizigama (CEA/DER/SPRC/LEPh, CE Cadarache, 13 108 Saint-Paul-lez-Durance, France) / Speaker: Olivier Bouland |
| **15:30** | **R048** | **Evaluation and Validation of $^{28,29,30}$Si Cross Sections in the Resolved Resonance Region** / Roberto Capote (IAEA) |
| **15:50** | | **Break** |

**Topic Track: Evaluation**
**Session Title: Evaluation methodology 4**
Chair: Luiz Leal

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| **16:10** | **R049** | **On the Use of Indicator for Measuring Goodness of Bayesian Inference in Evaluation of Nuclear Data** / Cyrille De Saint Jean (CEA, France) |
| **16:30** | **R050** | **Prompt Fission Neutron Spectra of $^{237}$Np(n,F) and $^{241,243}$Am(n,F)** / Vladimir M. Maslov (Joint Ins. of Nuclear and Energy Research, Minsk-Sosny, Belarus) |
| **16:50** | **R051** | **Can Machine Learning Techniques Help Us to Solve Nuclear Data Problems?** / Denise Neudecker (LANL, USA) / Speaker: LA-TBD |
| **17:10** | **R052** | **The Systematics of Nuclear Reaction Excitation Function** / Jimin Wang (China Inst. of Atomic Energy) |
| **17:30** | **R053** | **New $^{23}$Na Nuclear Data Evaluation Taking Into Account Both Differential and Double Differential Experiments** / Pascal Archier (CEA, France) |

| Tue May 21 | 8:30-12:30 | Room 205 |
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**Topic Track: Nuclear Data Processing and Validation**
**Session Title: Nuclear data processing 1**
Chair: Cedric Jouanne

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| **08:30** | **I054** | **Status of the IRSN Nuclear Data Processing System GAIA-2** / Clément Jeannesson (Institut de Radioprotection et de Sûreté Nucléaire (IRSN), France) |
| **09:00** | **R055** | **Analyzing the Distribution of Scattering Angle in Ace Multigroup Library Using the Maximum Entropy Method** / Shuaitao Zhu (North China Electric Power Uni.) |
| **09:20** | **R056** | **Study on Consistent PN Cross Section Process Method for Fast Reactor** / Xubo Ma (North China Electric Power Uni.) |
| **09:40** | **R057** | **Upgrade on Neutron-gamma Coupled Multi-group Data Generation System** / Xiaofei Wu (China Nuclear Data Center) |
| **10:00** | **R058** | **Development of Multi-group Nuclear Engineering Computational Library for Neutronics Calculation of Light Water Reactors** / Qingming He (Xi'an Jiaotong Uni., China) |
| **10:20** | | **Break** |

**Topic Track: Nuclear Data Processing and Validation**
**Session Title: Nuclear data processing 2**
Chair: Clément Jeannesson

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| **10:40** | **I059** | **Current Status of the GALILEE-1 Processing Code** / Cedric Jouanne (CEA Saclay, France) |
| **11:10** | **I060** | **Implementation of URR and NTSL in the GNDS Format Using FUDGE** / Bret Beck (Lawrence Livermore National Laboratory, USA) |
| **11:40** | **R061** | **New R-matrix Resonance Reconstruction in NJOY21** / Wim Haeck (LANL, USA) |
| **12:00** | **R062** | **Development and Verification of Resonance Elastic Scattering Kernel Processing Module in Nuclear Data Processing Code NECP-Atlas** / Jialong Xu (Xi'an Jiaotong Uni., China) |
| **12:20** | **S063** | **Application of hyperfine group self-shielding calculation method to lattice and whole-core physics calculation** / Wen Yin (School of Nuclear Science and Technology, Xi'an Jiaotong Uni., Xi'an, Shaanxi, China) |
| **12:25** | **S064** | **Updates of the Pressurized Water Reactor Burnup Nuclear Data Libraries Based on the Latest ENDF/B-VIII.0 Data** / Chao Peng (Shanghai Nuclear Engineering Research & Design Ins. CO., LTD, China) |

| Tue May 21 | 14:00-18:00 | Room 205 |
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**Topic Track: Nuclear Data Processing and Validation**
**Session Title: Nuclear data processing 3**
Chair: Haicheng Wu

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| **14:00** | **I065** | **Progress of the Development of the Nuclear Data Processing Code NECP-Atlas** / Tiejun Zu (Xi'an Jiaotong Univerisity, China) |
| **14:30** | **I066** | **Advanced Neutronics Software SuperMC and Its Real Time Multi-temperature Cross Sections Generation Method** / Liqin Hu (Ins. of Nuclear Energy Safety Technology, Chinese Academy of Sciences, China) |
| **15:00** | **R067** | **NDPlot: A Plotting Tool for Nuclear Data** / Yongli Jin (China Nuclear Data Center, China Inst. of Atomic Energy, Beijing 10 2413, China) |
| **15:20** | **R068** | **Progress Towards International Adoption of GNDS** / Caleb Mattoon (Lawrence Livermore National Laboratory, USA) |
| **15:40** | **S069** | **On the Use of the Integral Data Assimilation Technique to Provide Feedback on Evaluated Nuclear Data: Application to the JEFF-3.1.1 Library Using Post-irradiation Examinations** / Gilles Noguere (CEA Cadarache, France) |
| **15:50** | | **Break** |

**Topic Track: Nuclear Data Processing and Validation**
**Session Title: Nuclear data adjustment 1**
Chair: Tiejun Zu

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| **16:10** | **I070** | **Trends on Major Actinides from an Integral Data Assimilation** / Gerald Rimpault (CEA, DEN, DER, SPRC, Cadarache, F-St Paul-Lez-Durance, France) / Speaker: Gilles Noguere |
| **16:40** | **R071** | **Researches on Nuclear-data Adjustment for the Sodium-cooled Fast Reactor** / Chenghui Wan (Xi'an Jiaotong Uni., China) |
| **17:00** | **R072** | **Using Tanimato Measure to Assess Similarities of Different Critical Assemblies** / Kai Fan (CAEP, China) |
| **17:20** | **R073** | **Impact of Nuclear Data Evaluations on Data Assimilation for An LFR** / Pablo Romojaro (CIEMAT, Spain) |
| **17:40** | **R074** | **Towards Rigorous Integral Feedback: Computing Reference Sensitivities to Resonance Parameters** / Pierre Tamagno (CEA, France) |

## Tue May 21 | 8:30-12:30 | Room 301

**Topic Track: Nuclear Reaction Measurements**
**Session Title: Nuclear reaction measurements 1**
Chair: Jan Heyse

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| **08:30** | **I075** | **Gains: Neutron Inelastic Cross Section Measurements of Interest for Applications and Reaction Studies** / Alexandru Liviu Negret (Horia Hulubei National Ins. for Physics and Nuclear Engineering, Romania) |
| **09:00** | **R076** | **Neutron Inelastic Cross Sections on $^{16}$O** / Marian Boromiza (Horia Hulubei National Ins. for Physics and Nuclear Engineering, Romania) |
| **09:20** | **R077** | **Neutron Inelastic Cross Sections on $^{54}$Fe** / Adina Olacel (Horia Hulubei National Ins. for Physics and Nuclear Engineering, Magurele, Romania) |
| **09:40** | **R078** | **Fast Neutron Inelastic Scattering from $^{7}$li** / Roland Beyer (Helmholtz-Zentrum Dresden-Rossendorf, Germany) |
| **10:00** | **R079** | **Measurement of the Angular Distribution of Neutrons Scattered from Deuterium Below 3 MeV** / Elisa Pirovano (Physikalisch-Technische Bundesanstalt, Germany) |
| **10:20** | | **Break** |

**Topic Track: Nuclear Reaction Measurements**
**Session Title: Nuclear reaction measurements 2**
Chair: Alexandru Liviu Negret

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|---|---|---|
| **10:40** | **I080** | **Nuclear Data Activities at the EC-JRC Neutron Facilities GELINA and MONNET** / Jan Heyse (European Commission - Joint Research Centre, Belgium) |
| **11:10** | **R081** | **Measurement of the $^{13}$C Absorption Cross Section Via Neutron Irradiation and AMS** / Tobias Wright (Uni. of Manchester, United Kingdom) |
| **11:30** | **R082** | **Profil-2 Experiment and Neutron Capture Cross Sections of Europium Isotopes** / Shengli Chen (CEA, France) |
| **11:50** | **R083** | **$^{241}$Am Neutron Capture Cross Section Measured with C6D6 Detectors at the n_TOF Facility, CERN** / Andreea Oprea (Horia Hulubei National Ins. for R&D in Physics and Nuclear Engineering (IFIN-HH), Romania) |
| **12:10** | **R084** | **Filtered Neutron Capture Cross-section of Hf-180** / Ngoc Son Pham (Nuclear Research Institute, Vietnam) |

## Tue May 21 | 14:00-18:00 | Room 301

**Topic Track: Nuclear Reaction Measurements**
**Session Title: Nuclear reaction measurements 3**
Chair: Hiroaki Utsunomiya

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| **14:00** | **R085** | **Preliminary Results on the Neutron Induced Capture Cross Section and Alpha Ratio of $^{233}$U at n_TOF with Fission Tagging** / Michael Bacak (CERN, Switzerland) |
| **14:20** | **R086** | **Radiative Thermal-neutron Capture on $^{139}$La** / Aaron Hurst (Uni. of California, Berkeley, USA) |
| **14:40** | **R087** | **Measurement of the Pu-242(n,$\gamma$) Cross Section from Thermal to 500 KeV at the Budapest Research Reactor and CERN n_TOF-EAR1 Facilities** / Jorge Lerendegui-marco (Universidad de Sevilla, Spain) |
| **15:00** | **R088** | **Measurement of Neutron-capture Cross Sections of Radioactive Minor Actinide Isotopes with High Time-resolution Neutron Pulses at J-PARC/MLF** / Shoichiro Kawase (Japan Atomic Energy Agency) |
| **15:20** | **R089** | **Measurement of the Neutron Capture Cross Section of $^{237}$Np Using ANNRI at MLF/J-PARC** / Gerard Rovira Leveroni (Tokyo Ins. of Technology, Japan) |
| **15:40** | **S090** | **Research on Neutron Total Cross-section Measurement at CSNS-WNS** / Xingyan Liu (China Academy of Engineering Physics, Mianyang , China) |
| **15:45** | **S091** | **Neutron Capture and Total Cross-section Measurement of Gd-155 and Gd-157 at ANNRI in J-PARC** / Atsushi Kimura (Japan Atomic Energy Agency (JAEA)) |
| **15:50** | | **Break** |

**Topic Track: Nuclear Reaction Measurements**
**Session Title: Nuclear reaction measurements 4**
Chair: Tatsuya Katabuchi

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|---|---|---|
| **16:10** | **I092** | **GDR Cross Sections Updated in the IAEA-CRP** / Hiroaki Utsunomiya (Konan Uni., Japan) |
| **16:40** | **R093** | **Study of Photon Strength Functions of Pu-241 and Cm-245 from Neutron Capture Measurements** / Daniel Cano-ott (CIEMAT, Spain) |
| **17:00** | **R094** | **New Reliabile Photoneutron Reaction Data for $^{159}$Tb** / Vladimir Varlamov |
| **17:20** | **R095** | **Measurement and Analysis of $^{155,157}$Gd(n,$\gamma$) From Thermal Energy to 1 Kev** / Cristian Massimi (INFN - Bologna, Italy) |
| **17:40** | **S096** | **Neutron Inelastic Cross Section Measurements on $^{58,60}$Ni** / Adina Olacel (Horia Hulubei National Ins. for Physics and Nuclear Engineering, Romania) |
| **17:45** | **S097** | **Neutron Resonance Transmission Analysis of Cylindrical Samples Used for Reactivity Worth Measurements** / Lino Salamon (CEA, DER, DEN, Cadarache, F-Saint-Paul-les-Durance, France) |
| **17:50** | **S098** | **Photodisintegration Reaction Rate Involving Charged Particles: Systematic Uncertainty from Nuclear Optical Model Potential and Experimental Solution Based on ELI-NP** / Haoyang Lan (Uni. of South China) |
| **17:55** | **S099** | **A Compact Photo-neutron Source Driven by 15 MeV Electron Linac** / Jianlong Han (Shanghai Ins. of Applied Physics, Chinese Academy of Sciences, Shanghai , China) |

## Tue May 21 | 8:30-12:30 | Room 302

**Topic Track: Fission Physics and Observables**
**Session Title: Fission theory and experimental 1**
Chair: Satoshi Chiba

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| **08:30** | **I100** | **Energy Dependent Fission Product Yields from Neutron Induced Fission of $^{235}$U, $^{238}$U, and $^{239}$Pu** / Anton Tonchev (Lawrence Livermore National Laboratory, USA) |
| **09:00** | **R101** | **Fission Studies at IGISOL/JYFLTRAP: Measurements of Neutron-induced Fission Yields** / Andreas Solders (Uppsala Uni., BOX 516, Uppsala, Sweden) |
| **09:20** | **R102** | **Product Yields from 0.57 MeV, 1.0 MeV and 1.5 MeV Neutron Induced Fission of U-235** / Jing Feng (China Inst. of Atomic Energy) |
| **09:40** | **R103** | **Fission Studies at IGISOL/JYFLTRAP: Isomeric Yield Ratio Measurements from 25 MeV $^{nat}$U(p,f), in the Quest for Angular Momentum Studies** / Mattias Lantz (Uppsala Uni., Sweden) |
| **10:00** | **R104** | **Update of EXFOR for Experimental Fission Product Yield** / Naohiko Otsuka (IAEA) / Speaker: Shin Okumura |
| **10:20** | | **Break** |

**Topic Track: Fission Physics and Observables**
**Session Title: Fission theory and experimental 2**
Chair: Anton Tonchev

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| **10:40** | **I105** | **Energy Dependent Fission Yield Calculations with Langevin Model, Hauser-Feshbach Statistical Decay and Beta Decay** / Shin Okumura (Internationl Atomic Energy Agency, Austria) |
| **11:10** | **R106** | **Fission Study in Macro-microscopic Model** / Tieshuan Fan (School of Physics, Peking Uni., China) / Speaker: Zhiming Wang |
| **11:30** | **R107** | **Calculation of Fission Fragment Mass Distributions by Using A Semi-empirical Method** / Jounghwa Lee (Nuclear Data Center, Korea Atomic Energy Research Institute, Daejeon , Korea) |
| **11:50** | **R108** | **Study of fission dynamics with a three-dimensional Langevin approach** / Lile Liu (China Inst. of Atomic Energy) |
| **12:10** | **R109** | **A Global Parameterization for Fission Yields** / Amy Lovell (LANL, USA) |

## Tue May 21 | 14:00-17:55 | Room 302

**Topic Track: Fission Physics and Observables**
**Session Title: Fission theory and experimental 3**
Chair: Ali Al-adili

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| **14:00** | **I110** | **Parameter Optimization for Spontaneously Fissioning Isotopes in FREYA** / Ramona Vogt (Nuclear and Chemical Sciences Division, Lawrence Livermore National Laboratory, Livermore, CA , USA) |
| **14:30** | **R111** | **Microscopic Study on Nuclear Fission Dynamics Within Covariant Density Functional Theory** / Zhipan Li (School of Physical Science and Technology, Southwest Uni., Chongqing , China) |
| **14:50** | **R112** | **A Monte Carlo Approach for Estimating Fission Fragment Distributions** / Marc Verriere (LANL, USA) |
| **15:10** | **R113** | **Calculation of the beta-delayed fission gamma data** / Nengchuan Shu (China Inst. of Atomic Energy) |
| **15:30** | **R114** | **Study of High-energy Fission and Quasi-fission with Inverse Kinematics** / Giorgia Mantovani (INFN-LNL, Uni. of Padova, Italy) |
| **15:50** | | **Break** |

**Topic Track: Fission Physics and Observables**
**Session Title: Fission theory and experimental 4**
Chair: Ramona Vogt

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| **16:10** | **I115** | **The VERDI Spectrometer - Opportunities and Challenges** / Ali Al-adili (Department of Physics and Astronomy, Uppsala Uni., Sweden) |
| **16:40** | **R116** | **FALSTAFF, An Apparatus to Study Fission Fragment Distributions: First Arm Results** / Quentin Deshayes (CEA Irfu, France) |
| **17:00** | **R117** | **Performance of A Twin Position-sensitive Frisch-grid Ionization Chamber for Photofission Experiments*** / Marius Peck (Institut für Kernphysik, Technische Universität Darmstadt, Darmstadt, Germany) |
| **17:20** | **R118** | **Fission Fragments Observables Measurements at the LOHENGRIN Spectrometer** / Christophe Sage (CNRS/LPSC, F-Grenoble, France) |
| **17:40** | **S119** | **De$\ell$Fin: A Talys-based Tool for the Comparison of Fission Model Codes** / Andreas Solders (Uppsala Uni., BOX 51 6, Uppsala, Sweden, China) |
| **17:45** | **S120** | **Discussion of Atomic Number Measurement of Fission Fragment by the Nuclear Stopping Power** / Wengang Jiang (Northwest Ins. of Nuclear Technology, China) / Speaker: Quanlin Shi |
| **17:50** | **S121** | **Yield Evaluation for Several Chains of $^{235}$U+n Fission with Zp Model** / Xiaoxue Zhao (Shenyang Normal Uni., China) |

## Tue May 21 8:30-12:30 Room 303

**Topic Track: Experimental Facilities, Equipment Techniques and Methods**
**Session Title: Experimental facilities, equipment techniques and methods 1**
Chair: Markus Nyman

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| **08:30** | **I122** | **RAON: Rare Isotope Accelerator Complex for On-line Experiment** / Young Kwan Kwon (Rare Isotope Science Project (RISP) / Ins. for Basic Science (IBS), Korea) |
| **09:00** | **R123** | **Neutron Activation Experiment of ITER Concrete Based on HINEG D-T Neutron Source** / Jun Zou (Ins. of Nuclear Energy Safety Technology, CAS• FDS Team, China) |
| **09:20** | **R124** | **Development of HINEG and Its Experimental Campaigns** / Fang Wang (Ins. of Nuclear Energy Safety Technology, Chinese Academy of Sciences, Hefei, Anhui, China) / Speaker: Yongfeng Wang |
| **09:40** | **R125** | **A New LCS $\gamma$ Source- Shanghai Laser Electron Gamma Source (SLEGS) At Shanghai Synchrotron Radiation Facility (SSRF)** / Gongtao Fan (Shanghai Advanced Research Ins. Chinese Academy of Sciences, China) |
| **10:00** | **R126** | **Physics Design of the Next-generation Spallation Neutron Target-moderator-reflector-shield Assembly Mark-IV at LANSCE** / Lukas Zavorka (LANL, USA) |
| **10:20** | | **Break** |

**Topic Track: Experimental Facilities, Equipment Techniques and Methods**
**Session Title: Experimental facilities, equipment techniques and methods 2**
Chair: Young Kwan Kwon

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| **10:40** | **I127** | **New Equipment for Neutron Scattering Cross-section Measurements at GELINA** / Markus Nyman (European Commission, Joint Research Centre, Unit G.2 - Standards for Nuclear Safety, Security & Safeguards, Retieseweg 111, 2440 Geel, Belgium) |
| **11:10** | **R128** | **Current Status of KAERI Neutron Time-of-flight Facility and Its Performance Prediction Through Monte Carlo Simulations** / Jong Woon Kim (Korea Atomic Energy Research Institute) |
| **11:30** | **R129** | **Neutron Beam Line for TOF Measurements at the Spanish National Accelerator Lab (CNA)** / Miguel Macías Martínez (Universidad de Sevilla - Centro Nacional de Aceleradores, Spain) |
| **11:50** | **R130** | **Commissioning of An MRTOF-MS at IMP/CAS** / Wenxue Huang (Ins. of Modern Physics, Chinese Academy of Sciences, China) |
| **12:10** | **S131** | **Laser-driven Neutrons for Time-of-flight Experiments?** / Carlos Guerrero (Universidad de Sevilla (US), Spain) / Speaker: Jorge Lerendegui Marco |
| **12:15** | **S132** | **The Prototype Dosimetry System to Protect MPD Electronic Equipment at the New NICA Collider.** / Marcin Bielewicz (National Center for Nuclear Research, Swierk, Otwock, Poland) |
| **12:20** | **S133** | **Neutron Source Evaluation for the Neutron Data Production System (NDPS) At RAON** / Sangjin Lee (Ins. for Basic Science (IBS), Korea) |
| **12:25** | **S134** | **A Design of Transition-edge Sensor for Measuring Kinetic Energies of Fission Fragments** / Xianglei Wang (Northwest Ins. of Nuclear Technology, China) |

## Tue May 21 | 14:00-17:55 | Room 303

**Topic Track: Experimental Facilities, Equipment Techniques and Methods**
**Session Title: Experimental facilities, equipment techniques and methods 3**
Chair: Heikki Penttila

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| **14:00** | **I135** | **Status and Perspectives of the Neutron Time-of-flight Facility n_TOF at CERN** / Enrico Chiaveri (European Organizatoin for Nuclear Research (CERN), Switzerland) |
| **14:30** | **R136** | **Fission Studies at IGISOL/JYFLTRAP: Simulations of the Ion Guide for Neutron-induced Fission and Comparison with Experimental Data** / Zhihao Gao (Uppsala Uni., BOX 516, Uppsala, Sweden.) |
| **14:50** | **R137** | **Discovery of New Neutron-moderating Materials at ISIS Neutron and Muon Source** / Goran Skoro (UK Research and Innovation Science and Technology Facilities, United Kingdom) |
| **15:10** | **R138** | **Development of SONATE, A Compact Accelerator Driven Neutron Source** / Loic Thulliez (IRFU, CEA, Université Paris-Saclay F-Gif-sur-Yvette France) |
| **15:30** | **R139** | **Introduction of the C6D6 Detector System of the Back-n at CSNS** / Jie Ren (China Inst. of Atomic Energy) |
| **15:50** | | **Break** |

**Topic Track: Experimental Facilities, Equipment Techniques and Methods**
**Session Title: Experimental facilities, equipment techniques and methods 4**
Chair: Enrico Chiaveri

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| **16:10** | **I140** | **Radioactive Ion Beam Manipulation at the IGISOL-4 Facility** / Heikki Penttila (Uni. of Jyväskylä, Finland) |
| **16:40** | **R141** | **Development of Stainless-steel Reflector for VR-1 Training Reactor** / Jan Frybort (Czech Technical Uni. in Prague, Czech Republic) |
| **17:00** | **R142** | **Characterization of Neutron Source for Nuclear Data Experiment in China** / Jie Bao (China Inst. of Atomic Energy) |
| **17:20** | **R143** | **Double-bunch Unfolding Method for the CSNS Back-n White Neutron Source** / Han Yi (Ins. of High Energy Physics, Chinese Academy of Sciences, China) / Speaker: Taofeng Wang |
| **17:40** | **S144** | **Formation of A Thermal Neutron Beam and Measurement of Its Intensity at the Tandetron Accelerator** / Konstantin Mitrofanov (Joint Stock Company "State Scientific Centre of the Russian Federation - Ins. for Physics and Power Engineering named after A.I. Leypunsky") |
| **17:45** | **S145** | **Analysis of the Systematic Errors in Determining the Time Stamp for the Digital Time-of-flight Neutron Spectrometer.** / Pavel Prusachenko (I.I. Leypunsky Ins. for Physics and Power Engineering (IPPE), Bondarenko sq. 1, Obninsk , Russia) |
| **17:50** | **S146** | **In Searching of Leakage Location of Underground High Voltage Electric Cable Using Radiotracer Method** / Sugiharto Sugiharto (Center for Isotopes and Radiation Application (CIRA), National Nuclear Energy Agency of Indonesia (BATAN)) |

## Tue May 21 | 8:30-12:25 | Room 305

**Topic Track: Nuclear Data Application**
**Session Title: Application in Nuclear Reactor 1**
Chair: Alejandro Sonzogni

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| **08:30** | **I147** | **Assessment of Representativity of the PETALE Experiments for Validation of Swiss LWRs Ex-core Dosimetry Calculations** / Dimitri Rochman (Paul Scherrer Institut, Switzerland) / Speaker: Marco Pecchia |
| **09:00** | **R148** | **Development and Verification of WIMS-D Libraries for Advanced Self-shielding Method** / Yuechao Liang (Harbin Engineering Uni., China) |
| **09:20** | **R149** | **Study on Kinetic Characteristics of Krypton and Xenon in Molten Salt Reactor System** / Bo Zhou (Shanghai Ins. of Applied Physics (SINAP), CAS, China) |
| **09:40** | **R150** | **Development and Engineering Verification of A Multi-group Library for PWR Lattice Calculation** / Hongbo Zhang (Shanghai Nuclear Engineering Research and Design Institute, China) |
| **10:00** | **R151** | **Deacy Data for Decay Heat and Anti-neutrino Spectra Calculations** / Paraskevi Dimitriou (International Atomic Energy Agency, 1400 Vienna, Austria) |
| **10:20** | | **Break** |

**Topic Track: Nuclear Data Application**
**Session Title: Application in Nuclear Reactor 2**
Chair: Paraskevi Dimitriou

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| **10:40** | **R152** | **Fine Structure in Nuclear Reactors Antineutrino Spectra** / Alejandro Sonzogni (Brookhaven National Laboratory, USA) |
| **11:00** | **R153** | **Rational Function Representation of Point-wise Nuclear Cross Sections and Applications to Doppler Broadening** / Shichang Liu (North China Electric Power Uni.) |
| **11:20** | **R154** | **Radiological Assessments of the Chemical Plant of the Molten Salt Fast Reactor in the Frame of the SAMOFAR H2020 Project** / Anthony Marchix (Irfu, CEA, Université Paris-Saclay, F-91 191 Gif-sur-Yvette, France) |
| **11:40** | **R155** | **Reaction Rate of Transmutation $^{129}$I, $^{237}$Np, and $^{243}$Am: Modeling and Comparison with the Yalina-thermal Facility Experiments** / Tamara Korbut (The Joint Ins. for Power and Nuclear Research - Sosny of the National Academy of Sciences of Belarus) |
| **12:00** | **R156** | **Optimization of neutron-energy group structure for graphite-moderated reactors in the SCALE code system** / Lukasz Koszuk (National Centre for Nuclear Research, Poland) |
| **12:20** | **S157** | **Neutronic Parameters and CPS (control and Protection System) Worth Calculation of Thermal Research Reactor Using MCNPX Code** / Hadi Shamoradifar (Payam e noor university, Iran) |

| Tue May 21 | 14:00-17:50 | Room 305 |
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**Topic Track: Nuclear Data Application**
**Session Title: Application in Nuclear Reactor 3**
Chair: Tamara Korbut

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| **14:00** | **I158** | **A New Reference Database for Beta-delayed Neutron Data for Applications** / Paraskevi Dimitriou (International Atomic Energy Agency, On behalf of the IAEA CRP, Austria) |
| **14:30** | **R159** | **On-the-fly Temperature-dependent Cross Section Treatment Under Extreme Conditions in RMC Code** / Lei Zheng (Department of Engineering Physics, Tsinghua Uni., China) |
| **14:50** | **R160** | **Evolution of the Importance of Neutron-induced Reactions Along the Cycle of An LFR** / Pablo Romojaro (CIEMAT, Spain) |
| **15:10** | **R161** | **Benchmarking the New ENDF/B-VIII.0 Nuclear Data Library for OECD/NEA Medium 1000 MWth Sodium-cooled Fast Reactor** / Donny Hartanto (Uni. of Sharjah, UAE, United Arab Emirates) |
| **15:30** | **R162** | **Measurement of Temperature-dependent Thermal Neutron Spectrum in CaH2 Moderator Material for Space Reactor Using TOF Method** / Jaehong Lee (Ins. for Intergrated Radiation and Nuclear Science, Kyoto Unversity, Japan) |
| **15:50** | | **Break** |

**Topic Track: Nuclear Data Application**
**Session Title: Application in Nuclear Reactor 4**
Chair: Ping Liu

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| **16:10** | **R163** | **Production and Verification of the Compressed Depletion Data Library for Neutronic Analysis** / Yunfei Zhang (Harbin Engineering Uni., China) |
| **16:30** | **R164** | **Benchmarking the New ENDF/B-VIII.0 Nuclear Data Library for the First Core of Indonesian Multipurpose Research Reactor (RSG-GAS)** / Donny Hartanto (Uni. of Sharjah, UAE, United Arab Emirates) |
| **16:50** | **R165** | **Nuclear Data Sensitivity and Uncertainty Analyses on the First Core Criticality of the RSG Gas Multipurpose Research Reactor** / Peng Hong Liem (Tokyo City Uni., Japan) |
| **17:10** | **R166** | **On the Impact of Nuclear Data Uncertainties on LWR Neutron Dosimetry Assessments** / Dimitri Rochman (Paul Scherrer Institut, Switzerland) / Speaker: Erwin Alhassan |
| **17:30** | **R167** | **Nuclear Data Sensitivity Analysis and Uncertainty Propagation in the KYADJ Whole-core Transport Code** / Qu Wu (Nuclear Power Ins. of China) |

## Wed May 22 | 8:30-12:20 | Room 202

**Topic Track: Nuclear Theory, Model and Codes**
**Session Title: Nuclear reaction theory models and codes 5**
Chair: Jutta Escher

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| **08:30** | **I171** | **Photonuclear Data Library and Photon Strength Functions** / P. Dimitriou (IAEA)(I168 canceled) |
| **09:00** | **R169** | **Theoretical Calculation and Evaluation of Neutron-induced Reactions on Pu Isotopes** / Hairui Guo (Ins. of Applied Physics and Computational Mathematics, Beijing , China) |
| **09:20** | **R170** | **Theoretical Calculation and Evaluation for n+$^{232,233,234,235,236,237,238}$U Reactions** / Yinlu Han (China Inst. of Atomic Energy) |
| **09:40** | **R171** | **Photonuclear Data Library and Photon Strength Functions** / Paraskevi Dimitriou (IAEA) **( Move to I171 at 8:30 above)** |
| **10:00** | **R172** | **The Evaluations of Photonuclear Data in CNDC** / Xi Tao (China Inst. of Atomic Energy) |
| **10:20** | | **Break** |

**Topic Track: Nuclear Theory, Model and Codes**
**Session Title: Nuclear reaction theory models and codes 6**
Chair: Roberto Capote

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| **10:40** | **I173** | **Surrogate Reactions: Doorways to Cross Sections for Unstable Isotopes** / Jutta Escher (Lawrence Livermore National Laboratory, USA) |
| **11:10** | **R174** | **Incorporating A Two-step Mechanism into Calculations of (p,t) Reactions Used to Populate Compound Nucleus Spin-parity Distributions in Support of Surrogate Neutron Capture Measurements** / James Benstead (AWE, United Kingdom) |
| **11:30** | **R175** | **Statistical Theory of Light Nucleus reactions with 1p-shell light nuclei involved** / Xiaojun Sun (Guangxi Normal Uni., College of Physics, Guilin, China) |
| **11:50** | **R176** | **Microscopic Optical Potentials for Li Isotopes** / Wendi Chen (Graduate School of China Academy of Engineering Physics) |
| **12:10** | **S177** | **Coupled-channel Analysis of Deuteron Scattering on $^{56}$Fe** / Yujie Liu (Graduate School of China Academy of Engineering Physics) |
| **12:15** | **S178** | **Studies on Neutron-Neutron Elastic Scattering** / Qianghua Wu (Tsinghua Uni., China) |

| Wed May 22 | 14:00-16:10 | Room 202 |
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**Topic Track: Nuclear Theory, Model and Codes**
**Session Title: Nuclear reaction theory models and codes 7**
Chair: Yukinobu Watanabe

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| **14:00** | **R179** | **N+d Scattering Solved with Faddeev-AGS Equations Using the Wave Packet Method** / Danyang Pang (Beihang Uni., China) |
| **14:20** | **R180** | **QRPA Predictions of the E1 and M1 Gamma-ray Strength Functions Using the D1M Gogny Interaction** / Stephane Hilaire (CEA, France) |
| **14:40** | **R181** | **A Study of Giant Dipole Resonance Parameters from Photoabsorption Cross Sections** / Yuan Tian (China Inst. of Atomic Energy) |
| **15:00** | **R182** | **Structure of Continuum States and Strength Function in the Complex Scaling Method** / Myagmarjav Odsuren (School of Engineering and Applied Sciences, National Uni. of Mongolia, Mongolia) |
| **15:20** | **S183** | **The Refractive Scattering of $^{17}$F+$^{12}$C** / Liyuan Hu (Harbin Engineering Uni., China) |
| **15:25** | **S184** | **Simulation of Neutron Transmission Performance of Metal Spherical Shell Under Temperature Dependent Neutron Cross Section** / Yinghong Zuo (Northwest Institue of Nuclear Technology, China) |
| **15:30** | **S185** | **Improvement of Generalized Evaporation Model Based on Analysis of Isotope Production in Proton- and Deuteron-induced Spallation Reactions** / Shunsuke Sato (Kyushu Uni., Japan) |
| **15:50** | | **Break** |

**16:10-18:00** **Workshop on Neutronics Experiment Facility HINEG and Simulation Code SuperMC**

## Wed May 22 | 8:30-12:00 | Room 203

**Topic Track: Evaluation**
**Session Title: Evaluated libraries**
Chair: Allan Carlson

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| **08:30** | **I186** | **Status of JENDL** / Osamu Iwamoto (Japan Atomic Energy Agency) |
| **09:00** | **R187** | **Completeness of Neutron-, Photo-induced and Spontaneous Fission Yields Data** / Boris Pritychenko (Brookhaven National Laboratory, USA) |
| **09:20** | **R188** | **Systematic Description of Product Mass Yields of the Neutron-induced $^{232}$Th and $^{232-239}$U Fissions** / Wenjie Zhu (School of Physics, Peking Uni., China) / Speaker: Tieshuan Fan |
| **09:40** | **R189** | **Evaluation and Validation of Fe-56 Data after CENDL–3.2b1** / Haicheng Wu (China Inst. of Atomic Energy) |
| **10:00** | **R190** | **Decay Heat Uncertainty Quantification with the GNIAC Code** / Jimin Ma (Ins. of Nuclear Physics and Chemistry, China) |
| **10:20** | | **Break** |

**Topic Track: Evaluation**
**Session Title: Uncertainty quantification and covariances 1**
Chair: Boris Pritychenko

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| **10:40** | **R191** | **Depletion Uncertainty Analysis Performed to the Critical MYRRHA Core Configuration** / Alexey Stankovskiy (SCK-CEN, a Belgian Nuclear Research Centre, Belgium) |
| **11:00** | **R192** | **Evaluation of Neutron Reaction Cross-sections with Taking Unrecognized Experimental Errors Into Account** / Sergei Badikov (National Research Nuclear Uni. "MEPhI", Russia) |
| **11:20** | **R193** | **Covariance Evaluation of the CENDL Library** / Ruirui Xu (China Inst. of Atomic Energy) |
| **11:40** | **S194** | **Uncertainties of Calculated Coincidence-summing Correction Factors in Gamma-ray Spectrometry** / Valentina Semkova (Ins. for Nuclear Research and Nuclear Energy, Bulgarian Academy of Sciences, Sofia, Bulgaria) / Speaker: Naohiko Otsuka |
| **11:45** | **S195** | **Uncertainty Quantification by Polynomial Chaos Technique for Source Driven Subcritical Experimental Systems** / Tamara Korbut (The Joint Ins. for Power and Nuclear Research - Sosny of the National Academy of Sciences of Belarus) |
| **11:50** | **S196** | **Cyclotron Production Cross Sections of $^{61}$Cu Radionuclide from $^{nat}$Ni(d, X)$^{61}$Cu Nuclear Reaction** / Ahmed Rufai Usman (Umaru Musa Yaradua Uni., Nigeria) |
| **11:55** | **S197** | **Measurement of $^{241}$Am (n,2n) Reaction Cross-section Induced by 14.8 MeV Neutron** / Feng Xie (Northwest Ins. of nuclear technology, China) |

## Wed May 22 | 14:00-18:00 | Room 203

**Topic Track: Evaluation**
**Session Title: Uncertainty quantification and covariances 2**
Chair: Osamu Iwamoto

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| **14:00** | **I198** | **Reduction of Uncertainty in General-purpose Libraries Using Transport Equation Constraints** / Jan Malec (JSI, Slovenia) |
| **14:30** | **R199** | **Researches on Uncertainty Quantification Due to Nuclear-data Covariance for PWR and SFR** / Chenghui Wan (Xi'an Jiaotong Uni., China) |
| **14:50** | **R200** | **Covariance Generation for the Prompt Neutron Multiplicity on Pu-239 and U-235 Including the (n,$\gamma$f) Process in the R.R.R.** / Esther Leal-cidoncha (Laboratory of Physical Studies, CEA/DEN Cadarache, F-13 108 Saint Paul Les Durance, France) / Speaker: Gilles Noguere |
| **15:10** | **R201** | **Measurement of $^{235}$U(n,f) Cross Section Below 150 keV** / Simone Amaducci (INFN - Laboratori Nazionali del Sud, Italy) |
| **15:30** | **S202** | **Calculation of Electron Scattering Cross-section Using Different Theoretical Methods** / Xiazhi Li (Northwest Ins. of Nuclear Technology, Xi'an, China) |
| **15:35** | **S203** | **Improved Model for Atomic Displacement Calculation** / Shengli Chen (CEA, France) |
| **15:50** | | **Break** |

**Topic Track: Evaluation**
**Session Title: Cross section and decay standards**
Chair: Jan Malec

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| **16:10** | **I204** | **Recent Work on Neutron Cross Section Standards** / Allan Carlson (NIST, USA) |
| **16:40** | **R205** | **Updating Covariances of Experiments in the Neutron Data Standards Database** / Denise Neudecker (LANL, USA) / Speaker: LA-TBD |
| **17:00** | **R206** | **Modified Single Particle Estimate Approach for Estimation of Nuclear Resonance Fluorescence Cross-section** / Kwangho Ju (KAIST (Korea Advanced Ins. of Science and Technology)) |
| **17:20** | **R207** | **Precise Measurement of the Neutron Capture Cross Section of U-235 at Thermal and Sub-thermal Energies** / Anton Wallner (Department of Nuclear Physics, Australian National Uni., Canberra, Australia) |
| **17:40** | **R208** | **Relativistic Effect on Atomic Displacement Damage** / Shengli Chen (CEA, France) |

## Wed May 22 | 8:30-12:40 | Room 205

**Topic Track: Nuclear Data Processing and Validation**
**Session Title: Nuclear data adjustment 2**
Chair: Andrej Trkov

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| **08:30** | **I209** | **Integral Adjustment of Nuclear Data Libraries - Finding Unrecognized Systematic Uncertainties and Correlations** / Henrik Sjostrand (Division of Applied Nuclear Physics, Department of Physics and Astronomy, Uppsala Uni., Uppsala, Sweden) |
| **09:00** | **R210** | **In Search of the Best Nuclear Data File for Proton Induced Reactions: Varying Both Models and Their Parameters** / Erwin Alhassan (Laboratory for Reactor Physics and Thermal-Hydraulics, Paul Scherrer Institute, 5232 Villigen, Switzerland) |
| **09:20** | **R211** | **Data Assimilation with Post Irradiation Examination Experiments** / Daniel Siefman (Swiss Federal Ins. of Technology in Lausanne, Switzerland) |
| **09:40** | **R212** | **Analysis of the Prior Nuclear Data Correlation and Its Effect on the Adjustment in Bayesian Inference** / Dinesh Kumar (Uppsala Uni., Sweden) |
| **10:00** | **R213** | **Learning from Google: About A Computational EXFOR Database for Efficient Data Retrieval and Analysis** / Georg Schnabel (Uppsala Uni., Sweden) |
| **10:20** | | **Break** |

**Topic Track: Nuclear Data Processing and Validation**
**Session Title: Nuclear data validation 1**
Chair: Tim Ware

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| **10:40** | **I214** | **Improved Evaluations of Neutron Induced Reactions on $^{57}$Fe and $^{56}$Fe Targets** / Andrej Trkov (IAEA, Austria) |
| **11:10** | **I215** | **Fusion Decay-heat Benchmark for Nuclear Data Validation: Advanced Interrogation Capabilities with FISPACT-II** / Mark Gilbert (United Kingdom Atomic Energy Authority) |
| **11:40** | **R216** | **Two Absolute Integral Measurements of the $^{197}$Au(n,$\gamma$g) Stellar Cross-section and Solution of the Historic Discrepancies.** / Javier Praena (Uni. of Granada (Spain)) |
| **12:00** | **R217** | **Nuclear Data Verification and Validation Platform for JEFF-4** / Luca Fiorito (Nuclear Energy Agency, France) |
| **12:20** | **R218** | **New Features and Improvements in the NEA Nuclear Data Tool Suite** / Michael Fleming (OECD Nuclear Energy Agency, France) |

## Wed May 22 | 14:00-18:00 | Room 205

**Topic Track: Nuclear Data Processing and Validation**
**Session Title: Nuclear data validation 2**
Chair: Bret Beck

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| **14:00** | **I219** | **Benchmark Testing of CENDL-3.2B1** / Haicheng Wu (China Inst. of Atomic Energy) |
| **14:30** | **R220** | **Effects of Different Nuclear Evaluation Data on the RMC K-eff Calculation** / Wenxin Zhang (Nuclear Power Ins. of China) |
| **14:50** | **R221** | **Analyses of Natural Radioactivity Concentrations in Soil and Assessment of Effective Doses in Several Districts of BANTEN and West Java, Indonesia** / Makhsun Makhsun (National Nuclear Energy Agency of Indonesia) |
| **15:10** | **R222** | **Validation of Tritium Production Cross-section of Lithium in JEFF3.2 with HCPB Mock-up Experiment** / Bin Li (Ins. of Nuclear Energy Safety Technology, Chinese Academy of Sciences, China) |
| **15:30** | **R223** | **Benchmarking ENDF/B-VIII.0 Using the LANL Expanded Criticality Validation Suite for MCNP** / Ramon Arcilla (Brookhaven National Laboratory, USA) |
| **15:50** | | **Break** |

**Topic Track: Nuclear Data Processing and Validation**
**Session Title: Nuclear data validation 3**
Chair: Mark Gilbert

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| **16:10** | **I224** | **Validation of JEFF-3.3 and ENDF/B-VIII.0 Nuclear Data Libraries in ANSWERS Codes** / Tim Ware (Wood, United Kingdom) |
| **16:40** | **I225** | **Advance: the ENDF Quality Assurance System** / David Brown (National Nuclear Data Center/Brookhaven National Laboratory, USA) |
| **17:10** | **R226** | **Testing of the Thorium-uranium Fuel Cycle Special Nuclear Data Library - CENDL-TMSR 1.0** / Xiaohe Wang (Shanghai Ins. of Applied Physics, China) |
| **17:30** | **R227** | **Validation of A New URR Implementation in GNDS Format** / Marie-anne Descalle (Lawrence Livermore National Laboratory, USA) |
| **17:50** | **S228** | **Ratio of Spectral Averaged Cross Sections Measured in 252-Cf(sf) and 235-U($n_{th}$,f) Neutron Fields** / Martin Schulc (Research Centre Rez, Czech Republic) / Speaker: R. Capote |
| **17:55** | **S229** | **Introduction of A Systematic Integral Testing Tool ENDITS** / Huanyu Zhang (China Inst. of Atomic Energy) |

## Wed May 22 | 8:30-12:30 | Room 301

**Topic Track: Nuclear Reaction Measurements**
**Session Title: Nuclear reaction measurements 5**
Chair: Maelle Kerveno

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| **08:30** | **I230** | **Measurement of (n,f) and (n,2n) Cross Sections of Actinides with the Surrogate Capture-reaction Method** / Chengjian Lin (China Inst. of Atomic Energy) |
| **09:00** | **R231** | **Measurements of Cross Sections for High Energy Neutron Induced Reactions on Co and Bi** / Peane Peter Maleka (NRF-iThemba LABS, South Africa) |
| **09:20** | **R232** | **High Precision Measurements of the $^{93}$Nb(n,2n)$^{92g+m}$Nb Reaction Cross Section** / Jianqi Chen (China Inst. of Atomic Energy) / Speaker: Guangyuan Luan |
| **09:40** | **R233** | **Measurements of Differential and Angle-integrated Cross Sections for the $^{10}$B(n,$\alpha$)$^{7}$Li Reaction in the Neutron Energy Range of 1 eV $<$ En $<$ 2.5 MeV** / Haoyu Jiang (State Key Laboratory of Nuclear Physics and Technology, School of Physics, Peking Uni., Beijing , China) |
| **10:00** | **R234** | **Angular Differential and Angle-integrated Cross Section Measurement for the $^{6}$Li(n,t)$^{4}$He Reaction from 1 eV to 3 MeV at CSNS** / Huaiyong Bai (State Key Laboratory of Nuclear Physics and Technology, School of Physics, Peking Uni., Beijing , China) |
| **10:20** | | **Break** |

**Topic Track: Nuclear Reaction Measurements**
**Session Title: Nuclear reaction measurements 6**
Chair: Chengjian Lin

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| **10:40** | **I235** | **An Overview of Experimental Nuclear Science at Los Alamos** / Morgan White (LANL, USA) / Speaker: Matt Devlin |
| **11:10** | **R236** | **What Can We Learn from (n,xn$\gamma$) Cross Sections About Reaction Mechanism and Nuclear Structure ?** / Maelle Kerveno (CNRS/IPHC, France) |
| **11:30** | **R237** | **Measurement of (n,$\gamma$) Cross-section on $^{186}$W Isotopes at Different Neutron Energies** / Mayur Mehta (Ins. for PLASMA RESEARCH, India) |
| **11:50** | **R238** | **Thermal Neutron Capture Cross-sections Measurements of Ti-50, V-51 and Mo-98** / Ngoc Son Pham (Nuclear Research Institute, Vietnam) |
| **12:10** | **R239** | **Measurement of the $^{244}$Cm and $^{246}$Cm Neutron-induced Capture Cross Sections at the n_TOF Facility** / Victor Alcayne (CIEMAT(Centro de Investigaciones Energeticas, Medioambientales y Tecnologicas), Spain) |

## Wed May 22 | 14:00-18:10 | Room 301

**Topic Track: Nuclear Reaction Measurements**
**Session Title: Nuclear reaction measurements 7**
Chair: Guohui Zhang

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| **14:00** | **I240** | **Neutron Transmission Measurements at nELBE** / Arnd Rudolf Junghans (Helmholtz-Zentrum Dresden-Rossendorf, Germany) |
| **14:30** | **R241** | **New Experimental Data for $^{12}$C(n,$\alpha$)$^{9}$Be Reaction.** / Tatiana Khromyleva (IPPE, Russia) |
| **14:50** | **R242** | **Photoneutron Reaction Cross Sections for $^{75}$As and $^{181}$Ta: Systematic Uncertainties and Data Reliability** / Vladimir Varlamov |
| **15:10** | **R243** | **Photonuclear reaction study in CIAE** / Chuangye He (China Inst. of Atomic Energy, Beijing , China) |
| **15:30** | **R244** | **MCNP Modeling for Neutron-induced Charged Particle Cross-section Measurements at LANSCE** / Lukas Zavorka (LANL, USA) |
| **15:50** | | **Break** |

**Topic Track: Nuclear Reaction Measurements**
**Session Title: Nuclear reaction measurements 8**
Chair: Arnd Rudolf Junghans

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| **16:10** | **I245** | **Measurements of Neutron-induced Charged-particle Emission Reactions** / Guohui Zhang (School of Physics, Peking Uni., Beijing , China) |
| **16:40** | **R246** | **Measurement of the Energy-differential Cross Section of the $^{12}$C(n,p) and $^{12}$C(n,d) Reactions at the n_TOF Facility at CERN** / Massimo Barbagallo (CERN, Switzerland) |
| **17:00** | **R247** | **Monte Carlo Simulations and n-p Differential Scattering Data Measured with Recoil Proton Telescopes** / Nicholas Terranova (INFN, CNAF, Bologna, Italy) |
| **17:20** | **R248** | **Measurement of Production Cross Sections of $^{22}$Na and $^{24}$Na in Proton Induced Reactions on Aluminum** / Sung-chul Yang (Korea Atomic Energy Research Institute) |
| **17:40** | **R249** | **Cross-section Measurement in the Reactions of $^{136}$Xe on Proton, Deuteron and Carbon** / Xiaohui Sun (RIKEN Nishina Center, Japan) |
| **18:00** | **S250** | **Continuous Spectra of Light Charged Particles from Interaction of 30 MeV Energy Protons with Cooper** / Timur Zholdybayev (Ins. of nuclear physics, Kazakhstan) / Speaker: Naohiko Otsuka |
| **18:05** | **S251** | **Simulations of the Measurements of Differential Cross Sections of the n-p and n-d Elastic Scattering Reactions at CSNS Back-n White Neutron Source** / Zengqi Cui (School of Physics, Peking Uni., China) |

## Wed May 22 | 8:30-12:30 | Room 302

**Topic Track: Fission Physics and Observables**
**Session Title: Fission theory and experimental 5**
Chair: Jack Silano

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| **08:30** | **I252** | **Calculation of the Fission Observables in the Resolved Resonance Energy Region of the $^{235}$U(n,f) Reaction** / Olivier Serot (French Alternative Energies and Atomic Energy Commission (CEA), France) |
| **09:00** | **R253** | **Microscopic Studies of Fission Observables of Compound Nuclei** / Junchen Pei (School of Physics, Peking Uni., China) |
| **09:20** | **R254** | **Monte-carlo Evaluation on Fission Process for Neutron-induced Actinide Nuclei Fission** / Zheng Wei (Lanzhou Uni., China) |
| **09:40** | **R255** | **Advances in Modeling and Simulation of Fast Neutron Induced Fission of $^{232}$Th** / Cristiana Oprea (JINR, Russia) |
| **10:00** | **R256** | **The Scission Microscopic Structure of Fission in Actinide Nuclei** / Xin Guan (Liaoning normal university, China) |
| **10:20** | | **Break** |

**Topic Track: Fission Physics and Observables**
**Session Title: Fission theory and experimental 6**
Chair: Olivier Serot

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| **10:40** | **I257** | **Validating the Bohr Hypothesis: Comparing Fission-product Yields from Photon-induced Fission of $^{240}$Pu and Neutron-induced Fission of $^{239}$Pu** / Jack Silano (Lawrence Livermore National Laboratory, USA) |
| **11:10** | **I258** | **Fission Studies Using Steff at n_TOF, CERN** / Nikolay Sosnin (The Uni. of Manchester, United Kingdom) |
| **11:40** | **R259** | **Improved Neutron Multiplicity Correlations with Fission Fragment Mass and Energy from $^{239}$Pu(n,f)** / Alf Göök (European Commission - Joint Research Centre, Belgium) |
| **12:00** | **R260** | **The Spatial Parity Non Conservation Effects in the Fission Induced by Thermal and Resonant Neutrons on $^{233}$U** / Cristiana Oprea (JINR, Russia) |
| **12:20** | **S261** | **Shape Description in Macro-microscopic Model** / Zhiming Wang (State Key Laboratory of Nuclear Physics and Technology, Peking Uni., Beijing 10 0871, China) |
| **12:25** | **S262** | **Energy Dependence of Time Parameters of Delayed Neutrons for the Fission of U-233 by Neutrons in Energy Range from 14 to 18 MeV** / Dmitrii Gremiachkin (JSC "SSC RF-IPPE", Russia) |

## Wed May 22 | 14:00-17:50 | Room 302

**Topic Track: Fission Physics and Observables**
**Session Title: Prompt fission neutron spectrum**
Chair: Veatriki Michalopoulou

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| **14:00** | **I263** | **Prompt Fission Neutron Spectra for Neutron-induced Fission of $^{239}$Pu and $^{235}$U** / M. Devlin (LANL, Los Alamos, NM , USA) |
| **14:30** | **R264** | **Prompt Fission Neutron Spectra of $^{235}$U(n,F) and $^{239}$Pu(n,F)** / Vladimir M. Maslov (Joint Ins. of Nuclear and Energy Research, 22 0109, Minsk-Sosny, Belarus) |
| **14:50** | **R265** | **Observations of Poorly-known Features of the $^{239}$Pu and $^{235}$U Prompt Fission Neutron Spectra** / Keegan J. Kelly (LANL, USA) |
| **15:10** | **R266** | Finished in the morning **...s Between Different Quantities Characterizing the ... Data. ...ng the Sequential Emission of Prompt Neutrons** / Anabella Tudora (Uni. of Bucharest, Faculty of Physics, Romania) |
| **15:30** | **R267** | **Angular Distributions and Anysotropy of Fission Fragments from Neutron-induced Fission of $^{239}$Pu, $^{237}$Np, and $^{nat}$Pb in Intermediate Energy Range 1- 200 Mev** / Alexey Gagarskiy (B.P. Konstantinov Petersburg Nuclear Physics Ins. of National Research Center "Kurchatov Institute", Gatchina, Leningrad region, Russia) |
| **15:50** | | **Break** |

**Topic Track: Fission Physics and Observables**
**Session Title: Fission cross section**
Chair: M. Devlin

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| **16:10** | **I268** | **First Results of the $^{230}$Th(n,f) Cross Section Measurements at the CERN n_TOF Facility** / Veatriki Michalopoulou (European Organization for Nuclear Reasearch (CERN), Switzerland) |
| **16:40** | **R269** | **First Results of the $^{241}$Am(n,f) Cross-section Measurement at the Experimental Area 2 of the n_TOF Facility at CERN** / Zinovia Eleme (Department of Physics, Uni. of Ioannina, Greece) |
| **17:00** | **R270** | **Study of the Neutron Induced Fission Cross-section of $^{237}$Np at CERN's n_TOF Facility Over A Wide Energy Range** / Athanasios Stamatopoulos (National Technical Uni. of Athens, Greece) |
| **17:20** | **R271** | **Measurement of the $^{234}$U(n,f) Cross Section in the Energy Range Between 14.8 and 19.2 MeV Using Micromegas Detectors** / Sotiris Chasapoglou (National Technical Uni. of Athens, Greece) / Speaker: Antigoni Kalamara |
| **17:40** | **S272** | **Experiments on Nubar(A) in $^{235}$U($n_{th}$,f) Using the Double-E Method** / Ali Al-adili (Department of Physics and Astronomy, Uppsala Uni., Sweden) |
| **17:45** | **S273** | **Experimental Estimation of the "scission" Neutron Yield in the Thermal Neutron Induced Fission of $^{233}$U and $^{235}$U** / Aleksandr Vorobev (Petersburg Nuclear Physics Ins. named B.P. Konstantinov of National Research Centre "Kurchatov Institute", Russia) |

## Wed May 22 | 8:30-12:30 | Room 303

**Topic Track: Experimental Facilities, Equipment Techniques and Methods**
**Session Title: Experimental facilities, equipment techniques and methods 5**
Chair: Frank Gunsing

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| **08:30** | **I274** | **Measuring Independent Fission Product Yields and Other Neutron Induced Reactions with the FissionTPC** / Nicholas Walsh (Lawrence Livermore National Laboratory, USA) |
| **09:00** | **R275** | **Utilizing Nuclear Data in Delayed Gamma-ray Spectroscopy Inverse Monte Carlo Analysis** / Douglas Chase Rodriguez (Japan Atomic Energy Agency) |
| **09:20** | **R276** | **Neutron Spectrum Determination of P+be Reaction for 30 MeV Protons Using the Multi-foil Activation Technique** / Milan Stefanik (Nuclear Physics Ins. of the Czech Academy of Science, p.r.i, Rez 130, Rez 250 68, Czech Republic) |
| **09:40** | **R277** | **Charged Particle Activation Measurements in NPI CAS and in Future GANIL/SPIRAL2-NFS** / Jaromir Mrazek (NPI CAS, Rez, Czech Republic) |
| **10:00** | **R278** | **Source Preparation Techniques in Nuclear Decay Data Measurements of Alpha Emitting Radionuclides by Using DSA** / Abdullah Dirican (Turkish Atomic Energy Authority- Department of Radiaton and Accelerator Technologies, Turkey) |
| **10:20** | | **Break** |

**Topic Track: Experimental Facilities, Equipment Techniques and Methods**
**Session Title: Experimental facilities, equipment techniques and methods 6**
Chair: Nicholas Walsh

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| **10:40** | **R279** | **Micromegas-based Detectors for Time-of-flight Measurements of Neutron-induced Reactions** / Frank Gunsing (CEA Saclay, France) |
| **11:00** | **R280** | **Targetry of Rare Isotopes at PSI** / Emilio Andrea Maugeri (Paul Scherrer Institut, Switzerland) |
| **11:20** | **R281** | **Neutron-gamma Classification with Support Vector Machine Based on Tensor Decomposition** / Hanane Arahmane (ESMAR Laboratory Faculty of Sciences Mohammed V Uni., Morocco) |
| **11:40** | **R282** | **Development and Characterization of PPACs for Fission Studies** / Diego Tarrio (Department of Physics and Astronomy, Uppsala Uni. (Sweden)) |
| **12:00** | **R283** | **The Light Charged Particle Detector Array at the "back-n" White Neutron Source** / Rui Fan (Ins. of High Energy Physics, CAS, China) |
| **12:20** | **S284** | **Evaluation of Gamma-ray Strength Function Based on Measured Gamma-ray Pulse-height Spectra in Time-of-flight Neutron Capture Experiments** / Nobuyuki Iwamoto (Japan Atomic Energy Agency) |
| **12:25** | **S285** | **A New 3 MV Tandem Accelerator Facilities for Materials Research and Nuclear Reaction Cross Section Measurements** / Md. Shuza Uddin (Ins. of Nuclear Science and Technology Atomic Energy Research Establishment Savar Dhaka Bangladesh) |

## Wed May 22 | 14:00-18:00 | Room 303

**Topic Track: Experimental Facilities, Equipment Techniques and Methods**
**Session Title: Experimental facilities, equipment techniques and methods 7**
Chair: Nathaniel Bowden

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| **14:00** | **R286** | **Application of Similarity Analysis Method in Zero-power Experimental Validation** / Tong Ning (China Inst. of Atomic Energy) |
| **14:20** | **R287** | **A New Neutron Induced $\gamma$-ray Generator for Geant4** / Emilio Mendoza Cembranos (CIEMAT, Madrid, Spain) / Speaker: Daniel Cano-Ott |
| **14:40** | **R288** | **The $^{6}$LiF-silicon Detector Array Developed for Real-time Neutron Monitoring at Back-streaming White Neutron Beam at CSNS** / Qiang Li (Ins. of High Energy Physics , China) |
| **15:00** | **R289** | **New Detection Systems at U-120M Cyclotron** / Jan Novak (Nuclear Physics Ins. ASCR, Czech Republic) |
| **15:20** | **R290** | **Collimator Design of A Recoil Proton Telescope** / Feipeng Wang (Ins. of Nuclear Energy Safety Technology, Chinese Academy of Sciences, China) |
| **15:40** | **S291** | **The Silicon-detector Array at Back-n White Neutron Facility** / Wei Jiang (Ins. of High Energy Physics , China) |
| **15:45** | **S292** | **Back-streaming White Neutron Beam for Neutron Imaging at CSNS** / Keqing Gao (Neutron Science Center, DongGuan, China) |
| **15:50** | | **Break** |

**Topic Track: Spallation, High and Intermediate Energy Reactions**
**Session Title: Spallation, high and intermediate energy reactions 1**
Chair: Hiroki Iwamoto

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| **16:10** | **I293** | **Recent Progress in Nuclear Data Measurement for ADS at IMP** / Zhiqiang Chen (Ins. of Modern Physics, Chinese Academy of Sciences, China) |
| **16:40** | **R294** | **Measurement of Displacement Cross Section in J-PARC for Proton in the Energy Range from 0.4 GeV to 3 GeV** / Shin-ichiro Meigo (J-PARC/Japan Atomic Energy Agency) |
| **17:00** | **R295** | **Nuclear Charge-changing Cross Section and Interaction Cross Section Measurements on C/H Target at Intermediate and High Energies** / Baohua Sun (Beihang Uni., China) |
| **17:20** | **R296** | **Spallation Reaction Study for Long-lived Fission Products in Nuclear Waste** / He Wang (RIKEN Nishina Center, Japan) |
| **17:40** | **R297** | **Measurement of Nuclide Production Cross Section for Lead and Bismuth with Proton in Energy Range from 0.4 GeV to 3.0 GeV** / Hiroki Matsuda (J-PARC/JAEA, Japan) |

## Wed May 22 | 8:30-12:30 | Room 305

**Topic Track: Nuclear Data Application**
**Session Title: Application in Nuclear Reactor 5**
Chair: Jaehong Lee

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| **08:30** | **I298** | **Study of Th-U Fuel Cycle and Nuclear Data for TMSR** / Jingen Chen (Shanghai Ins. of Applied Physics (SINAP), CAS, China) |
| **09:00** | **R299** | **Impacts of Nuclear Data Uncertainties on the Generic Safety of the Soluble-boron-free SMR ATOM Core** / Xuan Ha Nguyen (Korea Advanced Ins. of Science and Technology (KAIST)) |
| **09:20** | **R300** | **Analysis of the Perturbation Experiments for Some Sensitive Isotopes Application on the Designs of the Space Nuclear Reactor** / Sanbing Wang (Ins. of Nuclear Physics and Chemistry, China Academy of Engineering Physics) |
| **09:40** | **R301** | **Impact Analysis of Model and Data Library for Iter Nuclear Calculation Based on SuperMC** / Pengcheng Long (Ins. of Nuclear Energy Safety Technology, Chinese Academy of Sciences, China) |
| **10:00** | **S302** | **The influence and analysis of background cross section for the calculation of PWR fuel pin** / Xiang Xiao (School of Nuclear science and Engineering, North China Electric Power Uni., Beijing , China) |
| **10:05** | **S303** | **Source-term and Radiological Safety Analysis of TRIGA Research Reactor of Bangladesh** / Mohammad Mizanur Rahman (Bangladesh Atomic Energy Commission) |
| **10:10** | **S304** | **Uncertainty Quantification and Sensitivity Studies on Thorium-fueled Reactors** / Eliot Party (Institut Pluridisciplinaire Hubert Curien - Université de Strasbourg, France) / Speaker: Maelle Kerveno |
| **10:15** | **S305** | **Research and Development of China Nuclear Safety Cloud Computing Platform NCloud** / Pengcheng Long (Ins. of Nuclear Energy Safety Technology, Chinese Academy of Sciences, China) |
| **10:20** | | **Break** |

**Topic Track: Nuclear Data Application**
**Session Title: Nuclear data for astrophysics and cosmology 1**
Chair: Anton Wallner

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| **10:40** | **I306** | **Extensive New Beta-delayed Neutron Measurements for Astrophysics** / Jose Luis Tain (Instituto de Fisica Corpuscular, Spain) |
| **11:10** | **R307** | **The Cosmic Ray Detector (MCORD) for the New Collider NICA** / Marcin Bielewicz (National Center for Nuclear Research, Otwock-Swierk, Poland) |
| **11:30** | **R308** | **New Reaction Rates for the Destruction of $^{7}$Be During Big Bang Nucleosynthesis Measured at CERN/n_TOF and Their Implications on the Cosmological Lithium Problem** / Alberto Mengoni (ENEA, Bologna, Italy) |
| **11:50** | **R309** | **Determine the Neutron Capture Cross Section of Radionuclide with Surrogate Ratio Method** / Shengquan Yan (China Inst. of Atomic Energy) |
| **12:10** | **R310** | **The $^{154}$Gd Neutron Capture Cross Section Measured at the n_TOF Facility and Its Astrophysical Implications** / Mario Mastromarco (Istituto Nazionale di Fisica Nucleare (INFN), Italy) |

## Wed May 22 | 14:00-16:55 | Room 305

**Topic Track: Nuclear Data Application**
**Session Title: Nuclear data for astrophysics and cosmology 2**
Chair: Michael Smith

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| **14:00** | **I311** | **Impact of Fission Fragment Distribution on R-Process Nucleosynthesis in Neutron Star Mergers and Supernovae** / Toshitaka Kajino (Beihang Uni./NAOJ/Uni. of Tokyo, China) |
| **14:30** | **R312** | **Systematic Deviations of Neutron-capture Cross Sections Derived from Independent Accelerator Mass Spectrometry Measurements** / Anton Wallner (The Australian National Uni.) |
| **14:50** | **R313** | **Impact of Nuclear Data on Stellar Nucleosynthesis and Cosmology** / Boris Pritychenko (Brookhaven National Laboratory, USA) |
| **15:10** | **R314** | **Uncertainty Study in Analyzing the Reactor Neutrino Anomaly Based on the Nuclear Structure Physics** / Xiaobao Wang (Huzhou Uni., China) |
| **15:30** | **R315** | **Study of Astrophysical Nuclear Reactions in a Laser-driven Plasma Environment** / Xiaofeng Xi (Department of Nuclear Physics, China Inst. of Atomic Energy, Beijing , China) |
| **15:50** | | **Break** |

**Topic Track: Nuclear Data Application**
**Session Title: Nuclear data for astrophysics and cosmology 3**
Chair: Toshitaka Kajino

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| **16:10** | **R316** | **Gamma-ray Strength Functions for Astrophysical Applications in the IAEA-CRP** / Hiroaki Utsunomiya (Konan Uni., Japan) |
| **16:30** | **R317** | **The Unknown Site of Actinide Nucleosynthesis - Clues from Extraterrestrial Pu-244 in Deep-sea Archives** / Anton Wallner (The Australian National Uni.) |
| **16:50** | **S318** | **Direct Capture Cross Sections on Exotic Tin Isotopes*** / Shisheng Zhang (Beihang Uni., China) / Speaker: Michael Smith |

**17:00-18:30** **WPEC-Subgroup 45 VaNDaL**

## Thu May 23 | 8:30-12:30 | Room 202

**Topic Track: Nuclear Structure and Decay Data**
**Session Title: Nuclear masses and decay data measurements**
Chair: Young-sik Cho

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| **08:30** | **I319** | **Atomic Mass Evaluation** / Meng Wang (IMP, CAS, China) |
| **09:00** | **R320** | **Structure of Beta Decay Strength Function, Spin-isospin SU(4) Symmetry, and SU(4) Region** / Igor Izosimov (Joint Ins. for Nuclear Research (JINR), Russia) |
| **09:20** | **R321** | **Alpha-decay Studies on the New Neutron-deficient Np Isotopes** / Zhiyuan Zhang (Ins. of Modern Physics, Chinese Academy of Sciences, China) |
| **09:40** | **R322** | **First Results from Novel Measurement Methods of Nuclear Properties with the FRS Ion Catcher** / Israel Mardor (Soreq Nuclear Research Center, Israel) / Speaker: Samuel Ayet San Andres |
| **10:00** | **R323** | **Spectroscopy of $^{16}$B from the Quasi-free (p,pn) Reaction** / Zaihong Yang (Osaka Uni., Japan) |
| **10:20** | | **Break** |

**Topic Track: Nuclear Structure and Decay Data**
**Session Title: Beta-delayed neutron**
Chair: Meng Wang

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| **10:40** | **I324** | Canceled **ts of Beta-delayed Neutron and Beta-delayed Gamma Measurements with MTAS** / Bertis Rasco (ORNL, USA) |
| **11:10** | **R325** | **Strong One-neutron Emission from Two-neutron Unbound States in Beta Decays of Neutron-rich Ga Isotopes** / Rin Yokoyama (Uni. of Tennessee, USA) |
| **11:30** | **R326** | **Beta-neutron-gamma Spectroscopy of Beta-delayed Neutron Emitters Around Doubly-magic $^{78}$Ni** / Krzysztof Rykaczewski (ORNL, USA) |
| **11:50** | **R327** | **A New Measurement System for Study of Nuclide Decay Schemes** / Xuesong Li (Northwest Ins. of nuclear technology, China) |
| **12:10** | **R328** | **New Results from the Modular Total Absorption Spectrometer** / Marek Karny (Uni. of Warsaw, Poland) |

## Thu May 23 | 14:00-18:05 | Room 202

**Topic Track: Nuclear Structure and Decay Data**
**Session Title: Beta-decay**
Chair: Krzysztof Rykaczewski

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| **14:00** | **I329** | **Improving reactor antineutrino spectra and decay heat calculations with Total Absorption Gamma-ray Spectroscopy** / Alejandro Algora (The Valecia-Nantes TAGS collaboration) / Speaker: Jose Luis Tain |
| **14:30** | **R330** | **How Accurate Are the Half-lives of Long-lived Isotopes?** / Dorothea Schumann (Paul Scherrer Institute, Switzerland) |
| **14:50** | **R331** | **Nuclear Mass Table in Deformed Relativistic Continuum Hartree-Bogoliubov Theory** / Eunjin In (Sungkyunkwan Uni., Korea) |
| **15:10** | **R332** | **Recent Nuclear Shell Model Study and Its Possible Role in Nuclear Data** / Cenxi Yuan (Sun Yat-sen Uni., China) |
| **15:30** | **R333** | **Analysis of the Reactor Antineutrino Spectrum Anomaly with Fuel Burnup** / Le Yang (North China Electric Power Uni.) |
| **15:50** | | **Break** |

**Topic Track: Nuclear Structure and Decay Data**
**Session Title: Decay data measurements and Nuclear structure theory models and codes**
Chair: Jose Luis Tain

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| **16:10** | **I334** | **Decay Heat and Anti-neutrino Energy Spectra in Fission Products** / Krzysztof Rykaczewski (ORNL, USA) |
| **16:40** | **R335** | **Precise $\alpha$K and $\alpha$T Internal Conversion Coefficient Measurement As Test of Internal Conversion Theory: the Case of 39.752(6)-keV E3 Transition in $^{103m}$Rh** / N. Nica (Cyclotron Institute, Texas A&M Uni., College Station, Texas , USA) |
| **17:00** | **R336** | **Experimental Study of $\beta$ Spectra Using Si Detector** / Abhilasha Singh (CEA, LIST, Laboratoire National Henri Becquerel (LNE-LNHB), CEA-Saclay Gif/Yvette cedex, France) |
| **17:20** | **R337** | **Towards the First Experimental Determination of the $^{93}$Mo Half-life** / Ivan Kajan (Paul Scherrer Institute, Switzerland) |
| **17:40** | **R338** | **Study of Finite Nuclei Within A Dirac-Brueckner-Hhartree-Fock** / Xiao-dong Sun (China Nuclear Data Center, China Inst. of Atomic Energy) |
| **18:00** | **S339** | **Measurements of Gamma-ray Intensities from the Decay of $^{187}$W in the Reaction $^{186}$W(n,$\gamma$)$^{187}$W** / Cheolmin Ham (Department of Energy Science, Sungkyunkwan Uni., Suwon , Korea) |

## Thu May 23 | 8:30-12:20 | Room 203

**Topic Track: Evaluation**
**Session Title: Thermal scattering data 1**
Chair: Jose Ignacio Marquez Damian

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| **08:30** | **I340** | **Thermal Scattering for Neutron Moderator Materials: Integrating Neutron Scattering Experiments with Density Functional Theory Simulations** / Li Liu (Rensselaer Polytechnic Institute, USA) |
| **09:00** | **R341** | **Temperature Dependent Measurement of Thermal Neutron Differential Scattering in Heavy Water** / Gang Li (Canadian Nuclear Laboratories, Canada) |
| **09:20** | **R342** | **On the Evaluation of the Thermal Neutron Scattering Cross Sections of Uranium Mono-nitride** / Iyad Al-qasir (Department of Mechanical and Nuclear Engineering, Uni. of Sharjah, Sharjah , UAE, United Arab Emirates) |
| **09:40** | **R343** | **Generation and Validation of Thermal Neutron Scattering Cross-section for Heavy Water Using Molecular Dynamics Simulations** / Haelee Hyun (Korea Atomic Energy Research Institute) |
| **10:00** | **R344** | **High-resolution Time-of-flight Measurements for Light Water at the Spallation Neutron Source (SNS), Oak Ridge National Laboratory** / Luiz Leal (Institut de Radioprotection et de Surete Nucleaire, France) |
| **10:20** | | **Break** |

**Topic Track: Evaluation**
**Session Title: Thermal scattering data 2**
Chair: Li Liu

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| **10:40** | **I345** | **Experimental Validation of the Temperature Behavior of the ENDF/B-VIII.0 Thermal Scattering Kernel for Light Water** / Jose Ignacio Marquez Damian (Centro Atomico Bariloche - Comision Nacional de Energia Atomica, Argentina) |
| **11:10** | **R346** | **Thermal Neutron Scattering Data for Liquid Molten Salt LiF-$BeF_2$** / Jia Wang (Ins. of Applied Physics and Computational Mathematics, China) |
| **11:30** | **R347** | **Analysis of the Time-of-flight Scattering Cross Section Data for Light Water Measured at the SEQUOIA Spectrometer, Spallation Neutron Source (SNS)** / Vaibhav Jaiswal (Uni. of Lille, France) |
| **11:50** | **R348** | **Measurement of the Double-differential Neutron Cross Section of U in $UO_2$ From Room Temperature to Hot Full Power Conditions** / Gilles Noguere (CEA, DEN Cadarache, F-Saint Paul Les Durance, France) |
| **12:10** | **S349** | **Effect of FLiBe Thermal Neutron Scattering on Reactivity of Molten Salt Reactor** / Yafen Liu (Shanghai Ins. of Apllied Physics, China) |
| **12:15** | **S350** | **Processing and Application of Nuclear Data for Low Temperature Criticality Assessment** / Tim Ware (Wood, United Kingdom) |

## Thu May 23 | 14:00-18:15 | Room 203

**Topic Track: Evaluation**
**Session Title: Thermal scattering data 3**
Chair: Jia Wang

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| **14:00** | **R351** | **Validated Scattering Kernels for Triphenylmethane at Cryogenic Temperatures** / Florencia Cantargi (Neutron Physics Department- Centro Atómico Bariloche- Comisión Nacional de Energía Atómica- Argentina) |
| **14:20** | **R352** | **Measurement of the Scattering Laws of Irradiated Nuclear Graphite Using Inelastic Neutron Scattering Techniques** / Iyad Al-qasir (Department of Mechanical and Nuclear Engineering, Uni. of Sharjah, Sharjah , UAE, United Arab Emirates) |
| **14:40** | **S353** | **Development and verification of the thermal scattering law processing module in nuclear data processing code NECP-Atlas** / Yongqiang Tang (School of Nuclear Science and Technology, Xian Jiaotong Uni., Xian, Shaanxi, China) |
| **15:50** | | **Break** |

**Topic Track: Nuclear Data Application**
**Session Title: Nuclear data for medical applications**
Chair: Ulrich Fischer

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| **16:10** | **I354** | **Update of the IAEA Reference Cross Sections for Charged-particle Monitor Reactions** / Roberto Capote Noy (IAEA) |
| **16:40** | **I355** | **Radioisotope Production at the IFMIF-DONES Facility** / Javier Praena (Uni. of Granada (Spain)) |
| **17:10** | **R356** | **Investigation of Novel Routes for Production of the Medical Radionuclides $^{61}$Cu, $^{64}$Cu and $^{67}$Cu** / Md. Shuza Uddin (Ins. of Nuclear Science and Technology, Atomic Energy Research Establishment, Savar, Dhaka, Bangladesh) |
| **17:30** | **R357** | **A New Evaluation of the Nuclear Decay Data of $^{223}$Ra** / Aurelian Luca (Horia Hulubei National Ins. for Research and Development in Physics and Nuclear Engineering (IFIN-HH), Romania) |
| **17:50** | **R358** | **A Feasibility Study on the $^{99m}$Tc Production with Laser-compton Scattering Gamma-rays** / Kwangho Ju (Korea Advanced Ins. of Science and Technology) |
| **18:10** | **S359** | **Production of Radionuclides with Secondary Neutrons Induced by A 66 MeV Primary Proton Beam** / Mogakolodi Adolf Motetshwane (Botswana International Uni. of Science and Technology (BIUST), South Africa) |

## Thu May 23 | 8:30-12:35 | Room 205

**Topic Track: Nuclear Data Application**
**Session Title: Nuclear data in accelerator related applications 1**
Chair: Tadahiro Kin

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| **08:30** | **I360** | **The High-energy Intra-nuclear Cascade Liège-based Residual (HEIR) Nuclear Data Library** / Michael Fleming (OECD Nuclear Energy Agency, France) |
| **09:00** | **R361** | **Study of the Li(d,xn) Reaction for the Development of Accelerator-based Neutron Sources** / Yukinobu Watanabe (Kyushu Uni., Japan) |
| **09:20** | **R362** | **Generation of Collimated Neutron Beam Using High Intensity Laser Pulses** / Tao Ye (Ins. of Applied Physics and Computational Mathematics, China) |
| **09:40** | **R363** | **Neutron Production in the Li-7(p,n) Reaction in the Energy Range 17-34 Mev** / Mitja Majerle (Nuclear Physics Ins. CAS, Czech Republic) |
| **10:00** | **R364** | **Isotope-production Cross Sections of Residual Nuclei in Proton- and Deuteron-induced Reactions on $^{93}$Zr at 50 MeV/u** / Keita Nakano (Kyushu Uni., Japan) |
| **10:20** | | **Break** |

**Topic Track: Nuclear Data Application**
**Session Title: Nuclear data in accelerator related applications 2**
Chair: Michael Fleming

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| **10:40** | **I365** | **Production Method of Environmental Tracer Cs-132 by Accelerator-based Neutron** / Tadahiro Kin (Department of Advanced Energy Engineering Science, Kyushu Uni., Japan) |
| **11:10** | **R366** | **Excitation Functions of $^{3}$He- Induced Nuclear Reactions on Natural Copper up to 55 Mev** / Mayeen Khandaker (Sunway Uni., Malaysia) |
| **11:30** | **R367** | **Uncertainty Quantification of Radiation Source Terms for Thorium- and Uranium-based Medical Isotope Production Targets Irradiated by 100 MeV Protons** / Alexey Stankovskiy (SCK-CEN, a Belgian Nuclear Research Centre, Belgium) |
| **11:50** | **R368** | **Calculation of Athermal Recombination Corrected Dpa Cross Sections of Materials for Proton, Deuteron and Heavy-ion Irradiations Using the PHITS Code** / Yosuke Iwamoto (Japan Atomic Energy Agency) |
| **12:10** | **R369** | **Study of $^{18}$O(p,$\alpha$)$^{15}$N Reaction at Low Energies** / Hossein Rafikheiri (Nuclear Science and Technology Research Ins. (NSTRI), Iran) |
| **12:30** | **S370** | **Evaluation of Photonuclear Reaction Data for Medical Applications** / Young-sik Cho (Korea Atomic Energy Research Institute) |

## Thu May 23 | 14:00-17:50 | Room 205

**Topic Track: Nuclear Data Application**
**Session Title: Nuclear data in accelerator related applications 3**
Chair: Toni Koegler

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| **14:00** | **I371** | **Impact of the ENDF/B-VIII.0 Library on Modeling Nuclear Tools for Oil Exploration** / Marie-laure Mauborgne (Schlumberger, USA) |
| **14:30** | **R372** | **Total Neutron Cross-section Extracted from Transmission Experiments with Liquid Oxygen Using Neutron Energies from 18 to 34 MeV** / Martin Ansorge (Nuclear Physics Institute, CAS, Czech Republic) |
| **14:50** | **R373** | **Neutron Production Double-differential Cross Sections on Carbon Bombarded by 800 MeV/u $^{28}$Si** / Cheolmin Ham (Department of Energy Science, Sungkyunkwan Uni., Suwon , Korea) |
| **15:10** | **R374** | **The Activation of $^{nat}$Zr by Quasi-monoenergetic Neutrons Below 34 MeV.** / Eva šimečkova (Nuclear Physics Ins. of CAS, Czech Republic) |
| **15:30** | **R375** | **Cross Section Determination for TAD Materials in Quasi Mono-energetic Neutron Spectrum from P(li) Reaction** / Dusan Kral (Brno Uni. of Technology, Czech Republic) |
| **15:50** | | **Break** |

**Topic Track: Nuclear Data Application**
**Session Title: Particle therapy and radiotherapy**
Chair: Marie-laure Mauborgne

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| **16:10** | **I376** | **Single Plane Compton Imaging for Radionuclide and Prompt Gamma-ray Imaging** / Toni Koegler (Helmholtz-Zentrum Dresden - Rossendorf, Ins. of Radiooncology - OncoRay, Dresden, Germany) |
| **16:40** | **R377** | **Improvements of the Nuclear Reaction Modelling and First Radiobiological Studies in the FLUKA Monte Carlo Code for Hadron Therapy** / Giulia Arico (European Organization for Nuclear Research (CERN), Switzerland) |
| **17:00** | **R378** | **Production Yields of $\beta^+$ Emitters for Range Verification in Proton Therapy** / Carlos Guerrero (Universidad de Sevilla, Spain) / Speaker: Jorge Lerendegui Marco |
| **17:20** | **R379** | **Study of Dose Rate in the Brain Model Based on the Neutron Beam of SUT-MNSR** / Kaijian Li (Suranaree Uni. of Technology, Nakhon Ratchasima, Thailand, China) |
| **17:40** | **S380** | **Multiphysics Modelling of Dose Delivery in Targeted Alpha Therapy** / Gang Li (Canadian Nuclear Laboratories, Canada) |
| **17:45** | **S381** | **Proton-induced Prompt Gamma-ray Yield of Carbon for Range Verification in Hadron Therapy** / Toni Koegler (OncoRay - National Center for Radiation Research in Oncology, Faculty of Medicine and Uni. Hospital Carl Gustav Carus, Technische Universität Dresden, Helmholtz-Zentrum Dresden - Rossendorf, Dresden, Germany) |

## Thu May 23 | 8:30-12:25 | Room 301

**Topic Track: Nuclear Reaction Measurements**
**Session Title: Nuclear reaction measurements 9**
Chair: Massimo Salvatores

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| **08:30** | **I382** | **Experiments with Neutron Induced Neutron Emission from U-235 Pu-239 and Graphite** / Yaron Danon (Gaerttner LINAC Center, Rensselaer Polytechnic Institute, Troy, NY , USA) |
| **09:00** | **R383** | **New $^{209}$Bi Photodisintegration Data and Physical Criteria of Data Reliability** / Vladimir Varlamov (Faculty of Physics, Lomonosov Moscow State Uni., Moscow, Russia) |
| **09:20** | **R384** | **Isomer Ratios for Products of Photonuclear Reactions on Rh** / Ihor Kadenko (Taras Shevchenko National Uni. of Kyiv Ukraine) / Speaker: Ihor Kadenko |
| **09:40** | **R385** | **Evaporation Residue Cross Section Measurements for the $^{35,37}$Cl + $^{181}$Ta Reactions** / Laveen Puthiya Veetil (Department of Physics, School of Physical Sciences, Central Uni. of Kerala, Kasaragod , India) |
| **10:00** | **S386** | **Neutron TOF Experiments for Transmission and Capture of Neutrons on $^{103}$Rh in the Resonance Region** / Vivek Raghunath Chavan (Sungkyunkwan Uni., Suwon-, Republic of Korea) |
| **10:05** | **S387** | **Double-differential Cross Section Measurement with Low Threshold Detector for Proton Production Induced by Several Tens of MeV Protons** / Yuji Yamaguchi (Kyushu Uni., Japan) |
| **10:10** | **S388** | **Measurement of Gamma Ray from Inelastic Neutron Scattering for $^{56}$Fe** / Zhaohui Wang (China Inst. of Atomic Energy, Beijing , China) |
| **10:20** | | **Break** |

**Topic Track: Nuclear Reaction Measurements**
**Session Title: Nuclear reaction measurements 10**
Chair: Yaron Danon

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| **10:40** | **I389** | **Measurements of (n,2n) Spectrum-averaged Cross Sections in the Thermal-neutron Induced Fission of U-235: Fixing the High Energy Tail of the PFNS** / Roberto Capote (IAEA) |
| **11:10** | **R390** | **Neutron Production from Thick LiF, C, Si, Ni, Mo, and Ta Targets Bombarded by 13.4-MeV Deuterons** / Hayato Takeshita (Department of Advanced Energy Engineering Science, Kyushu Uni., Japan) |
| **11:30** | **R391** | **Isomeric Cross Section Study of Neutron Induced Reactions on Ge Isotopes** / Roza Vlastou-zanni (National Technical Uni. of Athens, Greece) |
| **11:50** | **R392** | **Recent Results and Error Propagation of the Neutron Induced Reaction Cross Section for the Nuclear Data Applications** / Surjit Mukherjee (The M. S. Uni. of Baroda, Vadodara, India) |
| **12:10** | **S393** | **Simulation of Nondestructive Measurement of $^{88}$Kr Fission Yield Based on Gamma Ray** / Chenqing Wang (Northwest Ins. of Nuclear Technology, China) |
| **12:15** | **S394** | **The cross-section measurement of the $^{6}$Li(n,t) reaction based on the silicon carbide detector at Back-n white neutron source** / Kang Sun (Ins. of High Energy Physics, CAS, Beijing , China, ) |
| **12:20** | **S395** | **Measurement of the $^{16}$O(n,$\alpha$)$^{13}$C Reaction Cross-section Using A Double Frisch Grid Ionisation Chamber.** / Sebastian Urlass (European Organization for Nuclear Research, Geneva, Switzerland) |

## Thu May 23 | 14:00-18:05 | Room 301

**Topic Track: Nuclear Reaction Measurements**
**Session Title: Nuclear reaction measurements 11**
Chair: Andreas Solders

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| **14:00** | **I396** | **Recent Progress of Neutron Reaction Data Measurement at CIAE** / Xichao Ruan (China Inst. of Atomic Energy) |
| **14:30** | **R397** | **Towards Formation of Iaea Database for All Metallic Properties Useful in Radionuclides Production: Effect of Varied Titanium Densities on Excitation Functions.** / Ahmed Rufai Usman (Umaru Musa Yar'adua Uni., Katsina, Nigeria) |
| **14:50** | **R398** | **Light-nuclei Sub-barrier Nuclear Fusion and Screening Effect** / Kaihong Fang (Lanzhou Uiversity, China) |
| **15:10** | **R399** | **Cross Sections for A New Nuclear Reaction Channel on Au-197 with Dineutron Escape** / Ihor Kadenko (Taras Shevchenko National Uni. of Kyiv, Ukraine) |
| **15:30** | **R400** | **Development of Mc-based Error Estimation Technique of Unfolded Neutron Spectrum by Multiple-foil Activation Method** / Katsumi Aoki (Department of Advanced Energy Engineering, Kyushu Uni., Japan) |
| **15:50** | | **Break** |

**Topic Track: Nuclear Reaction Measurements**
**Session Title: Nuclear reaction measurements 12**
Chair: Xichao Ruan

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| **16:10** | **I401** | **Measurement of the $^{236}$U(n,f) Cross-section at Fast Neutron Energies with Micromegas Detectors** / Andrea Tsinganis (CERN, Switzerland) / Speaker: Veatriki Michalopoulou-Petropoulu |
| **16:40** | **R402** | **Measurement of the $^{235}$U(n,f) Cross Section Relative to n-p Scattering up to 1 GeV** / Alice Manna (Uni. and INFN of Bologna, Italy) |
| **17:00** | **R403** | **Recent Status of Fission Cross-section Measurement at Back-n White Neutron Beam of CSNS** / Yiwei Yang (Ins. of Nuclear Physics and Chemistry, CAEP, China) |
| **17:20** | **R404** | **Cross Section Measurements for Proton Induced Reactions on Natural Lanthanum** / K. V. Seeley (Uni. of Wisconsin, Madison, USA) |
| **17:40** | **S405** | **Measurement of Fission Cross Sections on $^{232}$Th and $^{238}$U Induced by D-T Neutrons** / Qiang Wang (Lanzhou Uni., China) |
| **17:45** | **S406** | **The Equivalent Efficiency Calibration Method of Radioactive Gas Source** / Gongshuo Yu (Northwest Ins. of Nuclear Technology (NINT), China) |
| **17:50** | **S407** | **Covariance Analysis on the Thermal Neutron Capture Cross Sections Using An Am-be Neutron Source** / Naohiko Otsuka (IAEA) |
| **17:55** | **S408** | **Characterization of the Differential Neutron Energy Spectrum from Proton Bombardment of Inconel-clad Lithium Conversion Targets** / Christopher Kutyreff (Uni. of Wisconsin-Madison, School of Medicine and Public Health, USA) |
| **18:00** | **S409** | **Measurements of the $^{33}$S(n,$\alpha$)$^{30}$Si Cross-section at n_TOF-CERN and ILL: Resonance Analysis and Implications.** / Javier Praena (Uni. of Granada (Spain)) |

## Thu May 23 | 8:30-12:40 | Room 302

**Topic Track: Data Dissemination and International Collaboration**
**Session Title: Data dissemination and international collaboration 1**
Chair: Franco Michel-sendis

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| **08:30** | **I410** | **Progress in International Collaboration on EXFOR Library** / Naohiko Otsuka (IAEA) |
| **09:00** | **R411** | **Nuclear Data Web Dissemination Efforts at the NNDC** / Tim Johnson (Brookhaven National Lab, USA) |
| **09:20** | **R412** | **MetroBeta: A European Project Providing Access to Accurate Beta Spectra** / Mark Kellett (CEA, LIST, Laboratoire National Henri Becquerel (LNHB), CEA-Saclay, 91 191 Gif sur Yvette, France) |
| **09:40** | **R413** | **The International Network of Nuclear Structure and Decay Data Evaluators** / Paraskevi Dimitriou (IAEA) |
| **10:00** | **R414** | **Overview of the OECD-NEA Working Party on International Nuclear Data Evaluation Cooperation (WPEC)** / Michael Fleming (OECD Nuclear Energy Agency, France) |
| **10:20** | | **Break** |

**Topic Track: Data Dissemination and International Collaboration**
**Session Title: Data dissemination and international collaboration 2**
Chair: Naohiko Otsuka

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| **10:40** | **I415** | **Perspectives on Nuclear Data Verification and Validation at the Data Bank Nuclear Data Service** / Franco Michel-sendis (OECD Nuclear Energy Agency, France) |
| **11:10** | **I416** | **Citizen Science in Radiation Research** / Cecilia Gustavsson (Department of Physics and Astronomy, Uppsala Uni., Sweden) / Speaker: Mattias Lantz |
| **11:40** | **R417** | **Conceptual Design, Modeling and Development of A Direction-finding Gamma Detector** / Zaheen Nasir (Military Ins. of Science & Technology, Bangladesh) |
| **12:00** | **R418** | **HPRL - International Cooperation to Identify and Monitor Priority Nuclear Data Needs for Nuclear Applications** / Emmeric Dupont (CEA-Irfu, Universitê Paris-Saclay, Gif-sur-Yvette, France) |
| **12:20** | **S419** | **Recent Dissemination Enhancements and Activities** / Tim Johnson (Brookhaven National Lab, USA) |
| **12:25** | **S420** | **Concentration of $^{137}$Cs in Indonesia Marine Waters** / Mohamad Nur Yahya (National Nuclear Energy Agency of Indonesia) |
| **12:30** | **S421** | **Development of New Software for Nuclear Data Compilation** / Aiganym Sarsembayeva (Department of Physics and Technology, Al-Farabi Kazakh National Uni., Almaty , Kazakhstan) |
| **12:35** | **S422** | **Gamma Spectroscopy Methodology for Measurements of Large Amounts of Environmental Samples in Sweden 30 Years after the Chernobyl Accident** / Mattias Lantz (Department of Physics and Astronomy, Uppsala Uni., SE-Uppsala, Sweden) |

## Thu May 23 | 14:00-16:10 | Room 302

**Topic Track: Nuclear Data Application**
**Session Title: Nuclear data in fusion application**
Chair: Rafael Rivera

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| **14:00** | **I423** | **Nuclear Data Activities of the EUROfusion Consortium** / Ulrich Fischer (Karlsruhe Ins. of Technology (KIT), Germany) |
| **14:30** | **I424** | **Validation of Theory of Radiation Damage Against Experimental Data** / Olga Ogorodnikova (National Research Nuclear Uni. "MEPHI", Russia) |
| **15:00** | **R425** | **Comparison Between Measurement and Calculations for A 14 MeV Neutron Water Activation Experiment** / Mario Pillon (ENEA, Italy) |
| **15:20** | **R426** | **A Comparative Survey of Evaluated Nuclear Data Libraries for Usage in Fusion-relevant Activation Foils Spectrometry Experiments** / Prasoon Raj (Karlsruhe Ins. of Technology, Germany) |
| **15:40** | **S427** | **Cross-section and Activation Data for Long-lived Radionuclides (A $\sim$ 50-60) with Their Impact in Fusion Reactor Technology** / Bhawna Pandey (Govind Ballabh Pant Uni. of Agriculture and Technology, Pantnagar , Uttarakhand, India) |
| **15:50** | | **Break** |

**16:10-18:00** **EG-GNDS Side-meeting**

## Thu May 23 | 8:30-12:30 | Room 303

**Topic Track: Spallation, High and Intermediate Energy Reactions**
**Session Title: Spallation, high and intermediate energy reactions 2**
Chair: Zhiqiang Chen

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| **08:30** | **I428** | **A Comprehensive Study of Spallation Models for Proton-induced Spallation Product Yields Utilized in Transport Calculation** / Hiroki Iwamoto (Japan Atomic Energy Agency) |
| **09:00** | **R429** | **Distribution of Neutron and Proton Field in Elongated Spallation Targets** / Miroslav Zeman (Brno Uni. of Technology, Czech Republic) |
| **09:20** | **R430** | **Production Cross Sections of Long-lived Radionuclides in Proton Irradiated Pb, Ta and W Targets** / Zeynep Talip (Paul Scherrer Institute, Switzerland) |
| **09:40** | **R431** | **Neutron Energy Spectra Measurements of the Back-n White Neutron Source at CSNS** / Yonghao Chen (Ins. of High Energy Physics Chinese Academy of Science, China) |
| **10:00** | **R432** | **Neutron Imaging at the n_TOF Facility of CERN** / Federica Mingrone (European Organization for Nuclear Research (CERN), Switzerland) / Speaker: Michael Bacak |
| **10:20** | | **Break** |

**Topic Track: Nuclear Data Processing and Validation**
**Session Title: Integral experiments 1**
Chair: Ivan Kodeli

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| **10:40** | **I433** | **Current Overview of ICSBEP and IRPhEP Benchmark Evaluation Practices** / John Darrell Bess (Idaho National Laboratory, USA) |
| **11:10** | **R434** | **A Study on Integral Parameters of VVER Critical Experiments of LWRS Based on Evaluated Nuclear Data Library ENDF/B-VII.0 & JENDL-3.0** / Zaheen Nasir (Military Ins. of Science & Technology, Bangladesh) |
| **11:30** | **R435** | **Combining Correlations from Multiple Criticality Benchmarks for Nuclear Data Adjustments Within A Total Monte Carlo Framework** / Erwin Alhassan (Laboratory for Reactor Physics and Thermal-Hydraulics, Paul Scherrer Institute, 5232 Villigen, Switzerland) |
| **11:50** | **R436** | **Validation of Heavy Water Cross Section Using Ambe Neutron Source** / Michal Kostal (Research Center Rez, Czech Republic) |
| **12:10** | **R437** | **Nuclear Data Implications of Tex, Ten New Critical Experiments with Plutonium and Tantalum** / Catherine Percher (Lawrence Livermore National Laboratory, USA) |

## Thu May 23 | 14:00-18:05 | Room 303

**Topic Track: Nuclear Data Processing and Validation**
**Session Title: Integral experiments 2**
Chair: John Darrell Bess

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| **14:00** | **I438** | **National Criticality Experiments Research Center (NCERC) - Capabilities and Recent Measurements** / Nicholas Thompson (LANL, USA) |
| **14:30** | **R439** | **Fusion Neutronics Integral Experimental Study of Zr, W Evaluated Nuclear Data** / Suyalatu Zhang (Ins. of low-intermediate energy nuclear reactions, Inner Mongolia Uni. for Nationalities, China) |
| **14:50** | **R440** | **ZED-2 Reactor as a Physics Test Facility for Validating Evaluated Nuclear Data Libraries** / J.c. Chow (Canadian Nuclear Laboratories, Chalk River, Ontario, Canada, K0J 1J) / Speaker: Jimmy Chow |
| **15:10** | **R441** | **Contributions to Integral Nuclear Data in ICSBEP and IRPhEP Since ND2016** / John Darrell Bess (Idaho National Laboratory, USA) |
| **15:30** | **R442** | **Measurement of the Delayed-neutron Yield and Time Constants in the Cold Neutron Induced Fission of $^{235}$U at III** / Olivier Serot (French Alternative Energies and Atomic Energy Commission (CEA), France) |
| **15:50** | | **Break** |

**Topic Track: Nuclear Data Processing and Validation**
**Session Title: Integral experiments 3**
Chair: Nicholas Thompson

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| **16:10** | **I443** | **Use of Shielding Integral Benchmark Archive and Database for Nuclear Data Validation** / Ivan Kodeli (Jozef Stefan Institute, Ljubljana, Slovenia) |
| **16:40** | **R444** | **Bayesian Monte Carlo Assimilation for the PETALE Experimental Programme Using Inter-dosimeter Correlation** / Axel Laureau (Laboratory for Reactor Physics and Systems behaviour (LRS), Ecole Polytechnique Fdrale de Lausanne (EPFL), CH-1015 Lausanne, Switzerland ) |
| **17:00** | **R445** | **The Benchmark Experiment on Slab Iron with D-t Neutrons for Validation of Evaluated Nuclear Data** / Yanyan Ding (China Inst. of Atomic Energy) |
| **17:20** | **R446** | **Neutron Spectra Measurement and Calculation Using Last Available Version of Data Libraries CIELO, ENDF, CENDL and JEFF in Iron and Oxygen Benchmark Assemblies.** / Bohumil Jansky (Research Centre Rez, Czech republic) |
| **17:40** | **R447** | **Measurement of Leakage Neutron Spectra with D-t Neutrons and Validation of Evaluated Nuclear Data** / Rui Han (Ins. of Modern Physics, Chinese Academy of Sciences, China) |
| **18:00** | **S448** | **Research on Doppler Broadening Rejection Correction Based on 0K Nuclear Data** / Shenglong Qiang (Nuclear Power Ins. of China) |

## Fri May 24 — 8:30-12:20 — Auditorium

**Topic Track: Plenary B**
**Session Title: Plenary B1**
Chair: Arjan Plompen

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| **08:30** | **L449** | **ENDF/B-VIII.0 and Beyond** / David Brown (National Nuclear Data Center/Brookhaven National Laboratory, USA) |
| **09:05** | **L450** | **Challenges in Actinides Evaluation: PFNS and the Next Pu Evaluation** / Roberto Capote (IAEA) |
| **09:40** | **L451** | **Nuclear reaction data in the next decade and the role of TALYS** / Arjan Koning (IAEA) |
| **10:15** | | **Break** |

**Topic Track: Plenary B**
**Session Title: Plenary B2**
Chair: David Brown

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| **10:35** | **L452** | **The Leverage of Nuclei in the Cosmos** / Michael Smith (ORNL, USA) |
| **11:10** | **L453** | **Results of the Collaborative International Evaluated Library Organisation (CIELO) Project** / Mark Chadwick (LANL, USA) / Speaker: Michael Fleming |
| **11:45** | **L454** | **CSNS Back-n White Neutron Facility and First Nuclear Data Measurements** / Jingyu Tang For The Back-n Collaboration (Ins. of High Energy Physics - Dongguan Branch, CAS, Dongguan, Guangdong, China) |

**Closing Ceremony**
Chair: Zhigang Ge

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| **12:20-12:40** | **Summary remarks , Acknowledgement and Conference closing** |